المراجعة رقم (1)

اختبار شهر مارس





Model (1)

5 Marks

1 (A) Choose the correct answer:

1. Dorcas gazelle lives in ....

a) tropical area b) desert area c) north pole d) south pole

2. .... processes help in soil formation.

a) Melting and erosion b) Freezing and erosion

c) Weathering and erosion d) Cooling and weathering

(B) What happens when ...?

1. Plants in an ecosystem receive too intense light. ....
2. There are differences in the size of particles of different inorganic materials of soil.

....

2 (A) Complete the following sentences:

1. The available amount of light and water affects the .... process in plants.
2. From living organisms that live in soil are .... and ....

(B) Give a reason for:

1. Falcons and eagles migrate to Egypt in winter.

....

2. Forest fires have cycle in nature.

....

3 Answer the following:

1. Classify the following types of adaptations into structural and behavioral adaptation.

"strong sense of smell – move in groups – walk on two legs – have sharp teeth – migration every year"

Structural adaptation	Behavioral adaptation
....	....
....	....

2. Mention the ways to reduce the soil erosion.

a) ....

b) ....

Model (2) — 5 Marks

1 (A) Put (✓) or (×):

1. Ecosystems contain biotic and abiotic factors. (   )
2. The soil consists of a mixture of organic materials only. (   )

(B) Answer the following:

1. Cross out the odd word:

   Lizard – Palm – Opuntia – poison dart Frog. (..............................)

2. Mention the three types of soil:

   1- ....
   2- ....
   3- ....

2 (A) Write the scientific term:

1. The factors that include living organisms in ecosystem. (..............................)
2. They are organisms that clean the environment by decomposing the dead organisms. (..............................)

(B) Give a reason:

1. Lizard body is covered with sandy colored scales.

   ....

2. Volcanic eruptions have cycle in nature.

   ....

3 Answer the following:

1. Mention the light factors that affect the plant's growth:

   ....
   ....

2. Mention two ways to reduce the water pollution:

   ....
   ....

Model (3)



5 Marks

1 (A) Complete the following sentences using the words between the two brackets:

1. All living organisms inherited .... factors which transferred from parents to their offspring. (genetic – environmental)
2. .... dissolve soil minerals. (Rocks – Rains)

(B) What happens when ...?

1. The genetic factor of hairless body is transferred from sphynx cats' parents to their offspring.

....

2. There are different amounts of organic materials in the soil.

....

2 (A) Choose the correct answer:

1. All the following are inherited traits in human, except ....

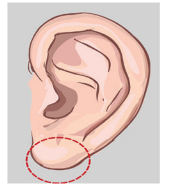
a) eye color b) nose shape c) fur color d) ear shape

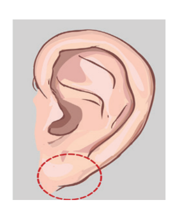
2. When the temperature of the environment increases, the ....

a) soil becomes wet b) soil dries up

c) various crops grow in the soil d) nutrients increase

(B) Look at the opposite figure, then answer:





1. The trait in the opposite figure is controlled by ....genetic factor ....
2. Write two other traits that are transferred from parents to offspring in human.

....

....

3 Answer the following:

1. Cross out the odd word:

Eating healthy food – Doing exercises – Drinking soda – Drinking water. (..................................)

2. Compare between soil in bogs and in savannah:

P.O.C	Bogs	Savannah
The type of soil	....	....
Living organisms that live in them	....	....

Model (4)

5 Marks

1 (A) Choose the correct answer:

1. Genes are tiny structure that are found in ....

a) the cell nucleus
b) the cell membrane
c) the cell wall
d) mitochondria

2. .... are natural changes that cause habitat destruction.

a) Building houses
b) Building factories
c) Hurricanes
d) Waterfalls

(B) Define:

1. Genes:

....

2. Invasive species:

....

2 (A) Correct the underlined words:

1. Antarctica is a **hot** desert biome. (..)
2. Dead plants are from the **inorganic** materials of the soil. (..)

(B) Answer the following:

1. Cross out the odd word:

Human – Air – Plants – Animals. (..)

2. Write the ways of soil restoration:

1. ....
2. ....

3 Give reason:

1. Most of desert plants have short extended roots near the Earth's surface.

....

2. There are different types of soil.

....

Model (5)

5 Marks

1 (A) Put (✓) or (×):

1. Most of animals which live in arctic environment have dark and thin fur. ( )
2. Adding animals manure helps to return back nutrients into the soil. ( )

(B) What happens if...?

1. African penguin has dense feathers around each of its eyes.

....

2. Disappearance of large predators from an area.

....

....

2 (A) Complete the following sentences using words between brackets:

1. Living organisms get the .... factors from their parents. (genetic – environmental)
2. .... soil contains the smallest particles in the soil. (Silt – Clay)

(B) Give a reason:

1. Some plants in deserts produce seeds that can live for a long time.

....

2. Decomposers keep the balance of the ecosystem.

....

....

3 Define the following:

1. Migration:

....

....

2. Habitat:

....

Model (1) 5 Marks

1 (A) Choose the correct answer:

1. Dorcas gazelle lives in ....

a) tropical area **b) desert area** c) north pole d) south pole

2. .... processes help in soil formation.

a) Melting and erosion b) Freezing and erosion

c) Weathering and erosion d) Cooling and weathering

(B) What happens when ...?

1. Plants in an ecosystem receive too intense light. ....**It may damage the plant** ....

2. There are differences in the size of particles of different inorganic materials of soil.

....**Changing the appearance and texture of the soil**.......... .

2 (A) Complete the following sentences:

1. The available amount of light and water affects the ....**photosynthesis** ..... process in plants.

2. From living organisms that live in soil are ..... **worms** .... and ....**insects**....

(B) Give a reason for:

1. Falcons and eagles migrate to Egypt in winter.

....**Because Egypt has moderate winter climate** ....

2. Forest fires have cycle in nature.

....**Because they release seeds from closed fruit**...... .

3 Answer the following:

1. Classify the following types of adaptations into structural and behavioral adaptation.

"strong sense of smell – move in groups – walk on two legs – have sharp teeth – migration every year"

Structural adaptation	Behavioral adaptation
strong sense of smell – walk on two legs – have sharp teeth	**move in groups – migration every year"**

2. Mention the ways to reduce the soil erosion.

a) ......**Increasing the planted area**..... .

b) ....**Digging canals to collect the excess water**...... .

Model (2)

5 Marks

1 (A) Put (✓) or (×):

1. Ecosystems contain biotic and abiotic factors. (✓)
2. The soil consists of a mixture of organic materials only. (×)

(B) Answer the following:

1. Cross out the odd word:

   Lizard – Palm – Opuntia – poison dart Frog. (..........Poison dart frog..........)

2. Mention the three types of soil:

   1- .... Sand soil ....

   2- ....Silt soil ....

   3- ....Clay soil ....

2 (A) Write the scientific term:

1. The factors that include living organisms in ecosystem. (.....Biotic factors.....)
2. They are organisms that clean the environment by decomposing the dead organisms.

   (.... Decomposers....)

(B) Give a reason:

1. Lizard body is covered with sandy colored scales.

   ....To protect its body from high temperature ....

2. Volcanic eruptions have cycle in nature.

   ....Because they make the soil fertile.. .

3 Answer the following:

1. Mention the light factors that affect the plant's growth:

   .... a- ...... The intensity of light.... b- .... Duration of exposure to light....

2. Mention two ways to reduce the water pollution:

   a- ......Treatment of sewage.... b- ..... Keeping green areas....

Model (3)

5 Marks

1 (A) Complete the following sentences using the words between the two brackets:

1. All living organisms inherited .... factors which transferred from parents to their offspring. (**genetic** – environmental)
2. .... dissolve soil minerals. (Rocks – **Rains**)

(B) What happens when ...?

1. The genetic factor of hairless body is transferred from sphynx cats' parents to their offspring.

..................**The sphynx kittens will also inherit the hairless body from their parents**.................. .

2. There are different amounts of organic materials in the soil.

..................**Changing the appearance and the amount of nutrients in the soil**.................. .

2 (A) Choose the correct answer:

1. All the following are inherited traits in human, except ....

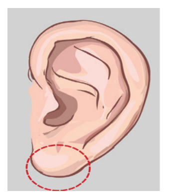
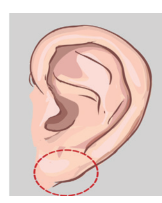
a) eye color　b) nose shape　**c) fur color**　d) ear shape

2. When the temperature of the environment increases, the ....

a) soil becomes wet　**b) soil dries up**

c) various crops grow in the soil　d) nutrients increase

(B) Look at the opposite figure, then answer:

1. The trait in the opposite figure is controlled by ....**genetic factor** ....
2. Write two other traits that are transferred from parents to offspring in human.

..................**1- The length of fingers** ....

.... **2- The length of the body** ....

3 Answer the following:

1. Cross out the odd word:

Eating healthy food – Doing exercises – Drinking soda – Drinking water. (....**Drinking soda**....)

2. Compare between soil in bogs and in savannah:

P.O.C	Bogs	Savannah
The type of soil	**Clay soil**	**Sandy soil**
Living organisms that live in them	**Frogs – Mosquitoes**	**Grasses – small plants – deer – lion – Cheetah**

Model (4)

5 Marks

1 (A) Choose the correct answer:

1. Genes are tiny structure that are found in ....

a) the cell nucleus   b) the cell membrane
c) the cell wall   d) mitochondria

2. .... are natural changes that cause habitat destruction.

a) Building houses   b) Building factories
c) Hurricanes   d) Waterfalls

(B) Define:

1. Genes:

.... They are tiny structures responsible for determining the body features ....

2. Invasive species:

.... They are living organisms that kill off native plants and animals in a certain area ....

2 (A) Correct the underlined words:

1. Antarctica is a **hot** desert biome. (......cold......)
2. Dead plants are from the **inorganic** materials of the soil. (......organic......)

(B) Answer the following:

1. Cross out the odd word:

Human – Air – Plants – Animals. (......Air......)

2. Write the ways of soil restoration:

1. Adding nutrients into the soil such as crops remains (straw and stem) and natural fertilizers.
2. Planting different types of crops and rotating them with crops that keep the soil fertility.

3 Give reason:

1. Most of desert plants have short extended roots near the Earth's surface.

............To absorb any available water from the Earth's surface ....

2. There are different types of soil.

.... Due to the different types and amounts of ingredients that form them ....

Model (5)



1 (A) Put (✓) or (×):

1. Most of animals which live in arctic environment have dark and thin fur. (×)
2. Adding animals manure helps to return back nutrients into the soil. (✓)

(B) What happens if...?

1. African penguin has dense feathers around each of its eyes.

   ....It can't cool its body at high temperature of weather............. .
2. Disappearance of large predators from an area.

   .... Overpopulation of its prey and decrease in the resources of its food and water in this area ....

2 (A) Complete the following sentences using words between brackets:

1. Living organisms get the .... factors from their parents. (**genetic** – environmental)
2. .... soil contains the smallest particles in the soil. (Silt – **Clay**)

(B) Give a reason:

1. Some plants in deserts produce seeds that can live for a long time.

   ....To adapt to the shortage of rainfall............. .
2. Decomposers keep the balance of the ecosystem.

   .... Because they recycle the remains of dead plants and animals into chemical nutrients release into soil, water, and air............. .

3 Define the following:

1. Migration:

   ....It is a type of adaptation in which animals move in a certain season from one place to another ....
2. Habitat:

   .... It is a place where living organisms live............. .





كيفية طباعة صفحات معينة من ملف معين

مثلا ازاى نطبع الصفحات من صفحة 4 الى صفحة 9

خطوة 1

File > Print... Ctrl+P

خطوة 2
اختيار اسم الطابعة بتاعتك

Printer: HP LaserJet M207-M212

خطوة 3
كتابة الصفحات المراد طباعتها
نكتب رقم 4 ثم نكتب الشرطة دي – ثم نكتب 9

Pages: 4 - 9

خطوة 4
اختيار نوع الورق

Page Setup...

خطوة 5
اختيار A4

Paper Size: A4

خطوة 6

Print

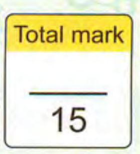
المراجعة رقم (2)

اختبار شهر مارس





Model Exam 1 on Concept [3.2]



Total mark

―――
15

1 (A) Choose the correct answer : *(5 marks)*

1. The density of hot humid air is .... that of cold dry air.
   a. more than b. equal to c. less than d. similar to
2. Heat transfers by convection in ....
   a. liquids only. b. gases only.
   c. solids and gases. d. liquids and gases.
3. The tool that is used to measure the speed of precipitation is ....
   a. barometer. b. thermometer. c. weather radar. d. anemometer.
4. Drought affects the following, except ....
   a. animals. b. plants. c. people. d. buildings.

(B) Give a reason for the following :

Meteorologists need to observe landforms in an area.

....

....

2 (A) Put (✓) or (✗) : *(5 marks)*

1. When rain doesn't fall for a long period of time, soil may get dry and plants may die. (   )
2. By increasing the temperature of air, its density increases. (   )
3. Sand cools down in a shorter time than sea water during nighttime. (   )
4. The properties of the atmosphere at the top of the mountain and at its bottom are similar. (   )

(B) What happens to ...?

The atmospheric pressure, as we move up toward the top of a mountain.

....

....

3 (A) Write the scientific term of each of the following : *(5 marks)*

1. The side of the mountain ranges at coastal regions that faces the coast.
   (..................)

2. The device that is used to measure atmospheric pressure. (..................)
3. It is the weight of the air above an area. (..................)
4. It is a natural phenomenon in which very strong winds blow up dust that reduce the visibility during driving cars. (..................)

(B) Study the following two figures, in which paper spiral and talcum powder are placed above a lighted bulb, then choose the correct answer :

Figure (1)

Figure (2)

1. Air molecules around the bulb spread out and become less dense, so they move up ....
   a. in figure (1) only.
   b. in figure (2) only.
   c. in figures (1) and (2).
   d. when air molecules are cooled.
2. Convection currents can be observed ....
   a. when the bulb is turned off.
   b. in figures (1) and (2).
   c. in figure (1) only.
   d. in figure (2) only.

Model Exam 2 on Concept [3.2]

Total mark

15

1 (A) Choose the correct answer : *(5 marks)*

1. In rain shadow phenomenon, the dry side of a costal mountain range is formed due to ....
   a. rising of humid air. b. rising of dry air.
   c. descending of humid air. d. descending of dry air.
2. .... is a tool that is used to express the weather conditions.
   a. Wind b. Humidity
   c. Weather ballon d. Precipitation
3. The cold air is .... and always ....
   a. less dense – moves up. b. less dense – moves down.
   c. more dense – moves up. d. more dense – moves down.
4. .... happens due to the shortage of water in an area for a long period of time.
   a. Snowfall b. Sandstorm c. Flooding d. Drought

(B) What happens to ... ?

The air density, as we move down toward the bottom of a mountain.

....

....

2 (A) Write the scientific term for each of the following : *(5 marks)*

1. The process that happens after the condensation of water vapor in the atmosphere causing rain falls at the wet side of a coastal mountain range. (...................)
2. The science that studies the weather conditions. (...................)
3. The horizontal movement of air in the atmosphere. (...................)
4. It is a natural phenomenon in which extreme dry and hot weather affect an area for a long period of time. (...................)

(B) Give a reason for the following ...?

Hot air moves up, while cold air moves down.

....

....

3 **(A) By using the words below, complete the following diagram which describe how the rain shadow phenomenon occurs :** *(5 marks)*

(Air descends – Air cools – Air warms – Air rises)



(B) Put (✓) or (✗) :

1. Reusing water is a useful way to irrigate crops in desert farms. ( )
2. Convection currents are related to horizontal movement of air. ( )

Model Exam 1

On Concept [4.1]

Total mark
15

1 (A) Put (✓) or (✗) : *(5 marks)*

1. Dorcas gazelle can live in both desert area and semidesert area. ( )
2. Around each eye of an Emperor penguin, there is a circle of skin that doesn't have any feathers. ( )
3. Inherited traits in Sphynx cats include hairless body, eye color and ear shape. ( )
4. Migratory birds are affected by environmental factors during their migration. ( )

(B) Give a reason for the following :

Some plants which live in desert environment have short extended roots near the Earth's surface.

....

....

2 (A) Choose the correct answer : *(5 marks)*

1. Genes are tiny structures that found in ....
   a. the cell nucleus.
   b. the cell membrane.
   c. the cell wall.
   d. mitochondria.
2. During their journey, migratory birds may suffer from all the following conditions, except ....
   a. many resting sites are available.
   b. presence of predators.
   c. shortage of food.
   d. shortage of water.
3. Acacia tree and arctic fox live in ....
   a. desert environment.
   b. arctic environment.
   c. rain forest environment.
   d. two different environments.
4. Transferring of some properties from parents to their offspring occurs in ....
   a. living organisms only.
   b. nonliving things only.
   c. living organisms and nonliving things.
   d. soil, air, water and sunlight.

(B) What happens to ...?

The living organisms in an ecosystem, if water and light are not available.

....

....

3 (A) Complete the following sentences : *(5 marks)*

1. All living organisms inherit .... factors which transferred from parents to their offspring.
2. Thick fur is an example of structural adaptation for animals that live in .... climate.
3. Some plants like palms and acacia trees live in the .... environment in Egypt.
4. Sphynx cat doesn't have the genetic factor for .... which is found in .... cat.

(B) Write the scientific term of each of the following :

1. It is a type of behavioral adaptation in which animals move in a certain season from one place to another. (.....................)
2. It is a desert biome that has a cold climate all the year. (.....................)

Model Exam 2

On Concept [4.1]

Total mark

/ 15

1 **(A) Write the scientific term of each of the following :** *(5 marks)*

1. It is a change in the body structure of living organisms that helps them to survive. (....................)
2. It contains biotic factors and abiotic factors that interact with each other. (....................)
3. It is a desert biome that has a cold climate all the year. (....................)
4. They are responsible for determining the body feature, and present in the cell nucleus. (....................)

(B) What happens to ...?

Arctic fox, if it has black fur instead of white fur.

....

2 **(A) Put (✓) or (✗) :** *(5 marks)*

1. The length of herbs is higher than that of long flowering plants. (   )
2. The amount of light affects the growth of plants. (   )
3. Antarctica is a hot desert biome. (   )
4. Sphynx cat doesn't have any hair or have only very fine hair. (   )

(B) Give a reason for the following :

Falcons and eagles migrate to Egypt in winter.

....

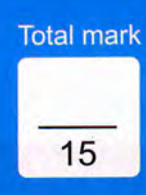
3 **(A) Complete the following sentences :** *(5 marks)*

1. The body size of animals and the length of plants are two .... factors that affect their growth.
2. Abiotic factors include all .... things.
3. Some desert plants have thick leaves to store ....
4. The type of cats that inhertis its hairless body from its parents, is known as .... cats.

(B) Cross out the odd word :

1. Lizards – Palms – Opuntia – Frog. (....................)
2. Human – Air – Plants – Animals. (....................)

Model Exam
on Concept (4.1)




Total mark

15

1 **(A) Choose the correct answer :** *(5 marks)*

1. Photosynthesis process is affected by some environmental factors such as ....
   a. availability of water only. b. availability of light only.
   c. availability of water and light. d. the length of the plants.
2. Poison dart frog lives in .... environment.
   a. arctic b. antarctic c. desert d. tropical rain forest
3. Bad habits in human lifestyle include ....
   a. eating healthy food. b. doing excercises.
   c. drinking more soda. d. avoid smoking.
4. The Red Sea in Egypt includes all of the following environments, except .... environment.
   a. marine b. mountain c. rainforest d. coastal

(B) Give a reason for the following :

African penguin has a circle of skin that doesn't have any feathers around each of its eyes.

....

....

---

2 **(A) Write the scientific term of each of the following :** *(5 marks)*

1. They are responsible for determining the body features, and present in the cell nucleus. (....................)
2. A process through which the living organism be able to live and survive in its environment. (....................)
3. It contains biotic factors and abiotic factors that interact with each other. (....................)
4. They are external factors that affect our health and we might not be able to control them. (....................)

(B) What happens if ... ?

The environmental conditions change in the homeland in which some migratory birds live.

....

3 (A) Put (✓) or (✗) : *(5 marks)*

1. Abiotic factors affect the growth and the adaptation of biotic factors. ( )
2. All Birman cats have white, very short and silky hair. ( )
3. Availability of water is a genetic factor that affects the growth of trees and shrubs in an ecosystem. ( )
4. The amount of light affects the growth of plants. ( )

(B) Choose from column (B) what suits it in column (A) :

(A)	(B)
1. Acacia tree	a. it has sandy-colored scales.
2. Poison dart frog	b. it has thick white fur.
3. Emperor penguin	c. it lives in Antarctic.
4. Arctic fox	d. it lives in desert.
	e. it lives in tropical rain forest.

1. .... 2. .... 3. .... 4. ....

Self-Assessments
on Concept (4.2)

Self-Assessment 12 On Lesson 1

1 **(A) Put (✓) or (✗) :**

1. If you examine a sample of soil, you will see only one type of ingredients in it. (   )
2. Soil is the home of some living organisms. (   )
3. Humus is a material that helps the plants to grow. (   )

(B) Give a reason for the following :

The soil is very important for animals.

....

....

2 **(A) Correct the underlined words :**

1. Minerals are the building units of plants. (....................)
2. The living organisms that feed on the remains of dead animals and plants are known as rocks. (....................)
3. Erosion, deposition and evaporation processes help in the formation of soil. (....................)

(B) Cross out the odd word :

1. Remains of dead animals – Remains of dead plants – Air. (....................)
2. Deposition – Melting – Erosion – Weathering. (....................)

3 **Classify the following ingredients into organic and inorganic materials :**

(Air – worms – insects – water – rocks – minerals – remains of dead plants)

Organic ingredients	Inorganic ingredients
....	....
....	....
....	....
....	....

April Tests

Model 1

Total mark
______
15

1 **(A) Write the scientific term of each of the following :** *(5 marks)*

1. It is a change in the behaviors or acts of a living organism to help it survive. (........................)
2. It contains biotic factors and abiotic factors that interact with each other. (........................)
3. Traits that play an important role in determining the shape and structure of an organism. (........................)
4. Grassland ecosystems that contain dry sand soil and are common in central Africa. (........................)

(B) Give a reason for the following :

Sphynx cats don't have long hair.

....

2 **(A) Put (✓) or (✗) :** *(5 marks)*

1. Wind and water help in formation of the soil. (   )
2. Migratory birds are affected by environmental factors during their migration. (   )
3. Biotic factors of an ecosystem include sunlight, air and water. (   )
4. Parents inherit traits from their offspring. (   )

(B) What happens to ...?

The soil if the temperature in the environment increases.

....

3 **(A) Complete the following sentences :** *(5 marks)*

1. African penguin has a circle of skin that doesn't have any .... around each of its eyes.
2. Mosquitos and .... are the most common animals that live in bog ecosystems.
3. Both of environmental factors and .... factors affect the growth of living organisms.
4. The building units of rocks are called ....

(B) Cross out the odd word :

Human – Air – plants – Animals

....

Model 2

Total mark

15

1 (A) Choose the correct answer : (5 marks)

1. Which of the following are from the inorganic ingredients in the soil ? ....
   a. Rocks, air and water. b. Plants, animals and air.
   c. Decomposers, Plants and humus.
   d. Decomposers, air and water.
2. The ability of .... soil to retain water is larger than .... soil.
   a. silt – clay b. clay – silt c. sand – silt d. sand – clay
3. Poison drat frog lives in the .... environment.
   a. arctic b. Antarctic c. desert d. tropical rain forest
4. The Red Sea in Egypt includes all the following environment except .... environment.
   a. marine b. mountain c. rainforest d. coastal

(B) What happens to ... ?

Arctic fox, if it has a thin fur instead of a thick fur.

....

2 (A) Put (✓) or (✗) : (5 marks)

1. Inherited traits in Sphynx cats include hairless body, eye color and ear shape. ( )
2. When the rain falls in desert environment, some plants reach the flowering stage quickly. ( )
3. Thorns on a plant stem, is an example of behavioral adaptation. ( )
4. Soils differ in their color and their ability to hold water. ( )

(B) Give a reason for the following :

Decomposers have an important role in the formation of soil.

....

3 (A) Choose from column (B) what suits it in column (A) : (5 marks)

(A)	(B)
1. Acacia tree	a. It has sandy-colored scales.
2. Poison dart frog	b. It has thick white fur.
3. Emperor penguin	c. It lives in Antarctic.
4. Arctic fox	d. It lives in desert.
	e. It lives in tropical rain forest.

1. .... 2. .... 3. .... 4. ....

(B) Cross out the odd word :

Dark color – Slow flowing of water – Small particles – Retaining small amount of water. (.........................)

حمل الآن

مجانا وحصريا

المراجعة رقم (3)

اختبار شهر مارس





Summary

Meteorologists

They are scientists who use different tools to study and forecast the weather.



Meteorology

It is the science of studying and predicting the weather.

Meteorologists predict weather through three stages:

Gathering Data → Analyzing Data → Put It all Together

1 Collecting (Gathering) Data:

- Meteorologists collect as much data as they can about weather. G.R
  To ensure that they have a complete understanding of the weather.
- Meteorologists collect data through wide areas, different altitudes. G.R
  To understand how weather is changing and to predict future weather.

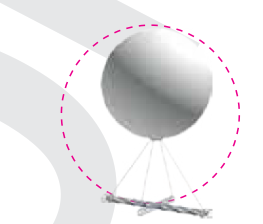
(A) Measurement Tools:

Thermometer	Measures the air temperature.	
Barometer	Measures the air pressure.	
Anemometer	Measures the wind speed.	
Rain Gauge	It can record how much precipitation is falling in an area.	
Weather Radar	It detects precipitation and tracks thunderstorms and hurricanes.	

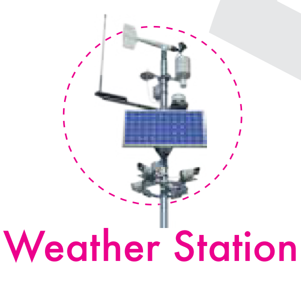
(B) Carrying Measurement tools:


Airplanes


Satellites


Weather Balloons

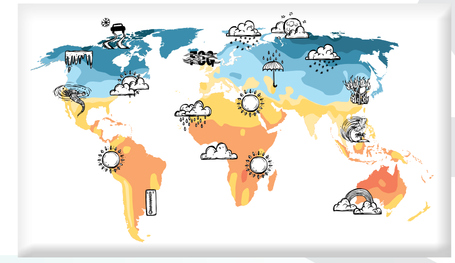
(C) Transmitting data tools:


Weather Station


Satellite

2 Analyzing Data:

- One of the most useful ways to analyze data is mapping data.
- Mapping data helps meteorologists to:
  1. identify weather patterns and air movement.
  2. communicate information to meteorologists and the public.



3 Putting It all Together:

- Meteorologists apply what they know about how other factors, such as landforms, affect weather.
- Meteorologists use complex computer models to predict how different factors will interact.
- Weather forecasts can be uncertain for the next days or weeks.
- Some unexpected changes in weather patterns may happen.

Atmospheric Pressure

It is the **weight** of the air column above a location.

Or

It is the **force** that air exerts on its surroundings.



Humidity

It is the measure of how much **water vapor** is present in the air.

Changes in the Atmosphere

- The properties of the atmosphere are different at the top and the bottom of a mountain.

As the elevation from the sea level increases, all the following decrease:

1. Temperature
2. Atmospheric pressure
3. Air density

At the top of a mountain, there is:
- Low atmospheric pressure
- Low temperature
- Low air density

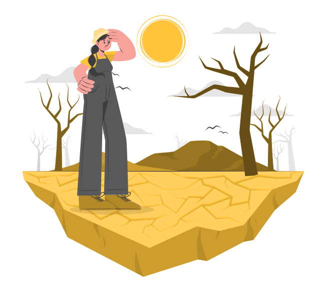
At the bottom of a mountain, there is:
- High atmospheric pressure
- High temperature
- High air density

Unit 3

Desert:

Climate:	hot and dry or arid
Rainfall:	• It has the least amount of rain compared to other biomes. • Deserts receive about 250 millimeters of rain per year.

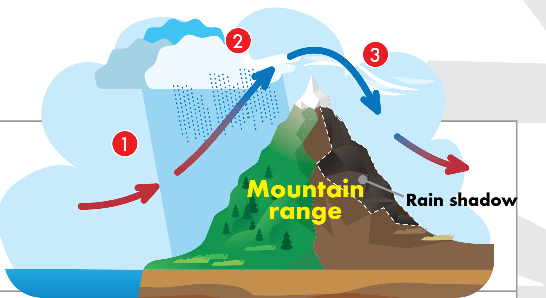




- Farming is difficult in the desert biome.
  Because more water evaporates than water that falls by precipitation.
- Farmers use innovative ways to make the soil fertile and fruitful, such as:

Water	Soil	Crops	Energy
They irrigate crops by reusing water.	They improve soil quality.	They grow crops that are able to withstand the heat and low-fertility soil.	They use solar energy or wind turbines to power the farm.

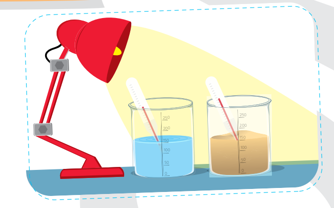
Rain shadow:



Definition:	An area on the dry side of a mountain range where rainfall is reduced.
How does it form?	It is formed when mountains block the humid air.
Steps of formation:	1 When humid air faces a mountain range, it rises. 2 The humid air cools, so water vapor condenses, then precipitates. 3 The air becomes dry and descends on the other side to form an area called a rain shadow.

Concept 2

Experiment 1: The Unequal Heating of Earth



- The solar radiation has a different effect on water and land on the Earth's surface.
- Sand heats up and cools faster than water.

	Day Temperature	Night Temperature
Coastal Regions	Moderate temperature (because water heats up slowly)	Moderate temperature (because water cools slowly)
Desert Regions	High temperature (because sand heats up quickly)	Low temperature (because sand cools quickly)

Experiment 2: Spinning paper spiral

What happens if?



1 You hold the paper spiral over the lighted lamp.

- The paper spiral begins to spin without stopping.

Reason:

- The warm air around the paper spiral expands and becomes less dense. So, it moves up, allowing the cooler and denser particles to move downward.

2 You sprinkle talcum powder over the hot, lighted lamp.

- The powder rises above the lighted lamp.

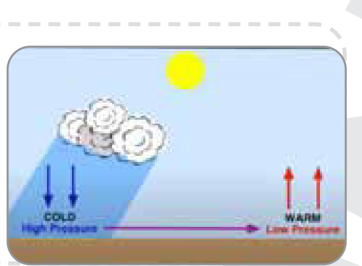
3 You sprinkle talcum powder over the turned of the lamp.

- The powder spreads and interferes with cooler air.

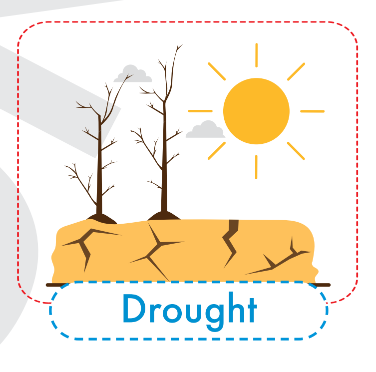


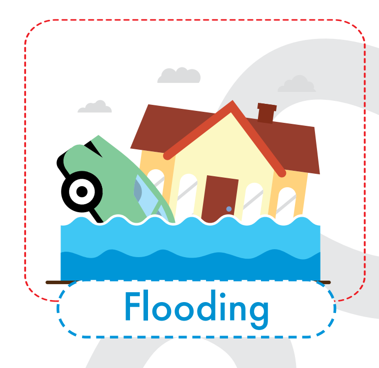
NOTES:

- The vertical movement of air is called the air current.
- The horizontal movement of air is called wind.



Extreme Weather Events:







» In recent years, there is an increase in the extreme weather events due to global climate change.

Extreme precipitation events cause:

- Changing ecosystems.
- Damage to human structures and agricultural systems.
- Injuries and deaths.

1 Drought:	2 Flooding:
Definition	
It is the lack (shortage) of available water in an area.	It is the overflow of water on the land around riverbanks edges.
Reasons:	
• A long period of dry weather. • There is an extended heat wave.	• Rapid increase in rainfall. • The sudden melting of snow and ice over a region.
Harms	
• There is not enough water for growing crops, farming animals, industry, and cities.	• It damages buildings by moving or breaking them. • It leads to the drowning of people and livestock • It can disrupt economies.

Advantages of Floods:

- Some ecosystems depend on periodic flooding, ecosystems along the Nile.



- In general, ecosystems eventually recover from flooding.
- Every few decades, very extreme floods will occur.
- Flooding is worse if the ground is frozen. Because it cannot absorb water.

3 Sandstorms: (Dust storm)

Reason (way of formation)	Sandstorms happen when very strong winds blow up sand or dust from a dry area.
Their Location	1 They are common in deserts. 2 An area that has prolonged drought.
Their Shape	A solid wall of debris and dust traveling along a horizon.
Their Size	They extended several kilometers long and hundreds of meters high, which makes them easy to see.

Harms of Sandstorms:

on Humans	1 They are dangerous to motorists and drivers because they reduce visibility and increase accidents.
	2 The dust harms your health if dust is inhaled or blown into your eyes.
on Water	3 Dust fills irrigation canals, affecting water quality.
on Energy	4 Dust builds up on solar panels, and stop generating of energy.
on Airplanes	5 It damages plane engines and stops airplane travel.

General Exercises on Concept 3.2

1 Choose the correct answer:

1 Clouds are formed when .... air is ....

a. dry - cooled
b. humid - heated
c. dry – heated
d. humid - cooled

2 A rain shadow is an area that is formed behind a ....

a. forest
b. mountain
c. sea
d. building

3 If the temperature at the top of a mountain is 18°C, so the temperature at its bottom might be ....

a. 18°C
b. 0°C
c. 10°C
d. 25°C

4 A .... is formed when a mountain range blocks the ....

a. sandstorm - dry air
b. sandstorm - humid air
c. rain shadow - humid air
d. rain shadow - dry air

5 All the following are innovative ways that are used by farmers in the desert, except ....

a. reusing water
b. using wind turbines
c. building dams
d. using solar energy

6 The .... biome receives the least amount of rainfall per year.

a. tropical rainforest
b. grassland
c. temperate forest
d. desert

7 Meteorologists are scientists who study ....

a. rocks
b. weather
c. water
d. plants

8 The desert biome has all the following properties, except ....

a. little rainfall
b. extreme climate
c. arid conditions
d. moderate climate

9 The temperature may reach more than 30 degrees in Aswan tomorrow. This reflects the ....

a. humidity
b. air pressure
c. weather
d. climate

10 Putting data on a weather map represents .... in weather prediction.

a. gathering data
b. collecting data
c. analyzing data
d. putting all together

11 Applying what meteorologists know about the effects of different landforms on weather is called ....

a. mapping data
b. analyzing data
c. collecting data
d. putting all together

12 Meteorologists use .... to measure the air temperature.

a. barometers
b. thermometers
c. satellites
d. anemometers

13 A/An .... is used to measure the current atmospheric pressure.

a. barometer
b. thermometer
c. satellite
d. anemometer

14 .... are used to measure the speed of tornado's winds.

a. Satellites
b. Thermometers
c. Radars
d. Anemometers

15 .... is the measure of the amount of water vapor in the air.

a. Precipitation
b. Humidity
c. Temperature
d. Atmospheric pressure

16 .... is the weight of the air column above a specific area.

a. Temperature
b. Gravity
c. Temperature
d. Atmospheric pressure

17 A/An .... can be used to compare the amount of precipitation in two different regions.

a. barometer
b. weather radar
c. raingauge
d. anemometer

18 A .... can carry weather measurement tools and also transmit weather data.

a. barometer
b. weather station
c. thermometer
d. satellite

19 The horizontal movement of air along the Earth's surface is called ....

a. air currents
b. atmosphere
c. wind
d. air pressure

20 .... pulls heavy water droplets in clouds downward.

a. Humidity b. Gravity c. Wind d. Sunlight

21 The formation of ice crystals occurs when the air in clouds becomes .... enough.

a. warm b. light c. cold d. hot

22 All the following are extreme weather events, except ....

a. drought b. precipitation c. flooding d. sandstorm

23 A .... looks like a solid wall of debris and dust traveling along the horizon.

a. flood b. sandstorm c. drought d. tsunami

24 The sudden melting of snow and ice over a region causes ....

a. earthquakes b. drought c. hurricanes d. floods

25 Sandstorms are most common in ....

a. polar regions b. deserts

c. rainforests d. green landscapes

26 .... may cause the drowning of people and livestock.

a. Sandstorm b. Drought c. Flooding d. Wildfire

2 Put (✓) or (✗):

1 Meteorologists can be completely sure of future weather. (   )

2 Clear sky can turn cloudy and rainy throughout the day. (   )

3 The density of cold air is less than that of hot air. (   )

4 Desert is characterized by hot and rainy climate. (   )

5 During climbing a mountain, the reading of barometer increases. (   )

6 Wind turbines can be used to operate desert farms. (   )

7 By increasing the temperature of the air, its density increases. (   )

8 Wind is created when less dense air replaces more dense air. (   )

9 When warm-moist air rises, it forms clouds. (   )

10 The solar radiation has a different effect on water and land on the Earth's surface. (   )

11 The sand absorbs heat slower than water during daytime. (   )

12 Water and sand on beach usually have the same temperature. (   )

13 Meteorologists collect data about weather conditions after analyzing them. (   )

14 Rain gauge can be used to predict precipitation for coming days.(   )

15 Anemometer can be used to track thunderstorms and hurricanes. (   )

16 A tornado's wind direction is measured by an anemometer. (   )

17 A frozen ground can absorb the water when flooding occurs. (   )

18 In general, ecosystems can recover from flooding. (   )

19 Drought and flooding have no harmful effects. (   )

20 Flooding has some benefits. (   )

3 Write the scientific term:

1 They are scientists who study and forecast the weather. (..........)

2 It is the science that studies the weather conditions. (..........)

3 It is an area on the dry side of a mountain range where rainfall is reduced. (..........)

4 It is a side of mountain ranges that faces the humid air. (..........)

5 It is a side of mountain ranges where the rain shadow is formed. (..........)

6 It is the weight of the air column above an area. (..........)

7 It is the amount of water vapor in the air. (..........)

8 It is the biome that has the least amount of rainfall on the Earth. (..........)

9 It is a device that used to measure the atmospheric pressure. (..............................)

10 It is a device that used to measure the air temperature. (..............................)

11 It is a device that used to measure the wind speed. (..............................)

12 It is a device that used to measure the amount of precipitation. (..............................)

13 It is a device that used to predict thunderstorms and hurricanes. (..............................)

14 It is the horizontal movement of the air on the Earth's surface. (..............................)

15 It is the vertical movement of air on Earth's surface. (..............................)

16 It is the first stage in the weather prediction process. (..............................)

17 It is the final stage in the weather prediction process. (..............................)

18 It is lack of available water for growing crops or farming animals. (..............................)

19 It is the overflow of water on the land around riverbanks due to the increase in rainfall flowing on the river. (..............................)

20 It is a solid wall of debris and dust traveling along the horizon. (..............................)

4 Complete the following using the words between the brackets:

A (horizontally - rain shadow - dry - increases - humid - vertically - decreases)

1 During climbing a mountain, atmospheric pressure ...., while air density .... when we go down.

2 A .... is formed when a mountain range blocks the .... air coming from a nearby ocean.

3 Desert biome has .... climate.

4 Air currents move ...., while wind moves .... on Earth.

B (shorter - Landforms - weather radar - rain gauge - Ice crystals - Clouds – longer)

1. At noon, water gets hot in a .... time than sand.
2. A rainfall can be predicted by a ...., while the amount of rainfall can be measured by a ....
3. .... are from the factors that affect the weather.
4. .... are formed when water vapor in the air is condensed.
5. .... are formed when the air in the cloud is cold enough.

C (Sandstorm - visibility - flooding - water quality - solar panels)

1. Dust storms may affect the .... in irrigation canals or build up on .... that stops generating energy.
2. Sudden melting of snow in an area may cause ....
3. .... may damage plane engines and stop airplane travel.
4. Sandstorms can reduce .... for motorists, which increase road accidents.

5 Choose from column (A) what suits it in column (B):

A

Column (A)	Column (B)
1 Wind turbines	a. the atmospheric pressure is low.
2 At the top of a mountain	b. is formed on dry side of a mountain.
3 At the bottom of a mountain	c. the air density is high.
4 Rain shadow	d. are used to power farms in deserts.

1 .... 2 .... 3 .... 4 ....

B

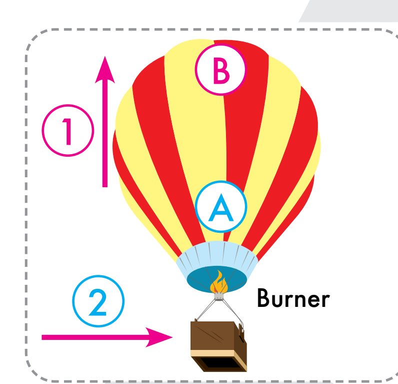
Column (A)	Column (B)
1 Heavy rain on river may cause	a. sandstorm
2 Extreme hot temperatures may cause	b. drought
3 Strong wind in desert may cause	c. flooding

1 .... 2 .... 3 ....

6 Cross out the odd word

1. Less rainfall – Dry climate – More precipitation – Arid conditions (..........)
2. Temperature – Atmospheric pressure – Barometer – Humidity (..........)
3. Thermometer – Barometer – Anemometer – Temperature (..........)
4. Satellites – Weather balloons – Thermometer – Airplane (..........)
5. Sandstorm – Precipitation – Flood – Drought (..........)

7 Study the following figure, then choose the correct answer:



1. The air in .... is warmer.
   (area A – area B)
2. When the air in area (A) heats up, it ....
   (sinks – rises)
3. When the air in area (B) cools, it becomes .... dense, so it ....
   (more, sinks – more, rises – less, sinks)
4. The arrow number .... represents the movement of the wind.
   (1 – 2)

8 Study the following figure, then choose the correct answer:

1. Area .... heats up faster. (A - B)
2. If the temperature of area (A) during the day is 30°C, then the temperature in area (B) might be ....°C. (30 - 26 - 34)
3. Area .... requires more energy to heat up. (A - B)

9 Give reasons for:

1. Farming in desert is very difficult.

....

....

2. The mountains' ranges may form the rain shadow.

....

....

3. Hot air moves up, while cold air moves down.

....

....

4. At noon, sand on the beach is hotter than the sea water.

....

....

5. The air current is different from the wind.

....

....

6. The number of extreme weather disasters is expected to increase.

....

....

7 In some countries, floods have some benefits.

....

....

8 Flooding is worse if it is happening on a frozen ground.

....

....

9 Sandstorms have harmful effects on human health.

....

....

10 Sandstorms may increase road accidents.

....

....

10 What happens to:

1 Atmospheric pressure during climbing up a mountain?

....

....

2 The temperature when descending from the top of the mountain?

....

....

3 The paper spiral when you hold it over a lighted lamp?

....

....

4 Irrigation canals when dust of a sandstorm fills them?

....

....

5 Energy generation when dust builds up on solar panels?

....

....

Answers Concept 3.2

1

1 d	2 b	3 d	4 c	5 c
6 d	7 b	8 d	9 c	10 c
11 d	12 b	13 a	14 d	15 b
16 d	17 c	18 d	19 c	20 b
21 c	22 b	23 b	24 d	25 b
26 c				

2

1 ✗	2 ✓	3 ✗	4 ✗	5 ✗
6 ✓	7 ✗	8 ✗	9 ✓	10 ✓
11 ✗	12 ✗	13 ✗	14 ✗	15 ✗
16 ✗	17 ✗	18 ✓	19 ✗	20 ✓

3
1. Meteorologists
2. Meteorology
3. Rain shadow
4. Wet side
5. Dry side
6. Atmospheric pressure
7. Humidity
8. Desert
9. Barometer
10. Thermometer
11. Anemometer
12. Rain gauge
13. Weather radar
14. Wind
15. Air currents
16. Collecting (gathering) data
17. Put it all together
18. Drought
19. Flooding
20. Sandstorm

4

(A)
1. decreases - increases
2. rain shadow - humid
3. dry
4. vertically - horizontally

(B)
1. longer
2. weather radar - raingauge
3. Landforms
4. Clouds
5. Ice crystals

(C)
1. water quality - solar panels
2. flooding
3. Sandstorm
4. visibility

5

(A) 1 d 2 a 3 c 4 b

(B) 1 c 2 b 3 a

6
1. More precipitation
2. Barometer
3. Temperture
4. Thermometer
5. Precipitation

7
1. Area (B)
2. rises
3. more - sinks
4. 2

8

1 A 2 26 3 B

9
1. Because the amount of water that evaporates in the desert is more than water that precipitate.
2. Because the mountain range blocks the humid air.
3. Because hot air is less dense than cold air.
4. Because sand heats faster than water.
5. Because air current moves vertically while wind move horizontally.
6. Due to the global climate change.
7. Because some countries depend on periodic floods.
8. Because the frozen ground doesn't absorb water.
9. Because dust may be inhaled by human or it may go into eyes.
10. Because it decreases visibility of driver and motorists.

10
1. Atmospheric pressure will decrease.
2. The temperature will increase.
3. The paper spiral will move without stopping.
4. The water quality of irrigation canals will be affected.
5. It may stop generation of energy.

Summary

Adaptation

It's a process that helps living organisms survive in their habitats.

Structural (Physical) Adaptation	Behavioral Adaptation
It's anything that is linked to the body structure of a living organism to help it survive in its habitat.	It's anything that a living organisms does or acts to help it survive in its habitat.

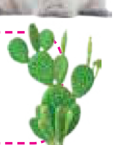
Examples

A polar bear has white fur.

Bird migration



The thorns on a plant's stem



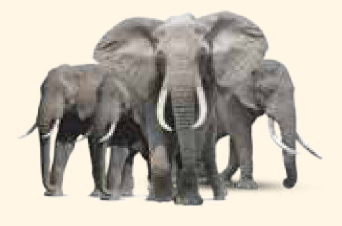
A plant growing towards light



Check your understanding?

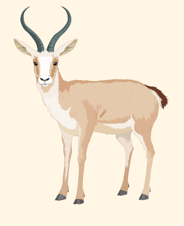
Classify these sentences by putting the letter (S) for structural adaptation and and the letter (B) for behavioral adaptation:

1. **Elephants live in herds.**



....

2. **Dorcas gazelles can go months without drinking water.**



....

Unit 4

Bird migration:

It is a behavioral adaptation in which birds move together from one place to another, usually seasonally.

Example



Steppe Eagle

Reasons of bird migration:

1. To find the best conditions to reproduce (breed).
2. To find different food resources.
3. To find suitable habitats at different times of the year.

Challenges that face migratory birds:

1. Extreme weather
2. Predators
3. Limited access to food and water
4. Limited resting sites due to habitat loss

- Migratory birds return to the place where they started, and the cycle of migration is repeated.
- Physical traits would help some birds survive their migration journey more than others.

Migratory Birds in Egypt:

- The Red Sea and Nile River are important stopovers for millions of migratory birds every year.

Falcons



Reasons that attract migratory birds to Egypt:

1. The moderate winter climate
2. The Red Sea area includes different environments, such as: (a) Marine (b) Coastal (c) Mountains

Eagles



Structural Adaptation of Animals

Animal	Habitat	Structural (Physical) Adaptation	Reason
Dorcas Gazelle	Desert and semi-desert (Egypt and the Middle East)	Fur color	Helps it hide.
Emperor Penguin	Antarctic	Thick blubber (fatty layer) covered with dense feathers	To keep its body warm.
African Penguin	Along the coast of South Africa	There is a circle of skin around its eyes without any feathers.	To cool off its body fast.
Arctic Fox	Arctic region	Thick fur	To keep its body warm.
		White fur	To blend in with the snow.
Poison Dart Frog	Tropical rainforests	Large eyes	To enable it to see at night
		Colorful poisonous skin	To hide from predators.
Lizard	Desert	Tough, sand-colored scales	To withstand heat and to hide among rocks in a desert.

- If natural resources are available, this helps living organisms to grow and survive.
- If natural resources are scarce, animals must rely on their inherited traits to adapt.

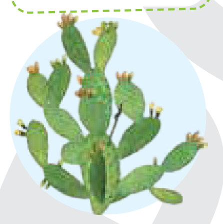
Unit 4

Structural Adaptation of Plants

Plants in Western Desert in Egypt

Palms |  Acacia Trees | Opuntia | Spiny Shrubs | Grass







Physical Adaptation	Figure	Reason
Small and wiry (herbal)		To not lose water.
Short, shallow roots (extended near the Earth's surface)		To draw (absorb) any available water from the upper soil.
Thick stems or thick, leathery leaves		To store water.
Thorns (prickles) on the stem		To keep herbivores away.

Some plants have other ways to adapt to drought, such as:

When the rain falls in deserts:

1. They sprout and reach the flowering stage quickly.
2. Flowers produce long-lived seeds to adapt to little rainfall.

Ecosystem

It is an area that contains living organisms and nonliving things that interact with each other.

The Size of an Ecosystem

Small Ecosystem	Large Ecosystem
A small area of land between buildings that contains grass, insects, and weeds.	The Arctic where, • Caribou feed on grasses. • Wolves hunt the caribou and other prey.

The Components of an Ecosystem

Biotic Factors	Abiotic Factors
They are living organisms in an environment. Examples: • Humans • Animals • Plants	They are nonliving things in an environment. Examples: • Sunlight • Air • Soil • Water • Precipitation • Temperature

Limited Resources in the Desert



- Deserts are one of the most extreme environments on Earth that have little rainfall.
- Deserts may be hot areas or cold areas.

1 Hot deserts:

- They have very small amount of groundwater.
- Some plants benefit from temporary pools that form in rocks.
- Some plants have long roots to reach the deep groundwater.
- Other plants have very short roots, ready to catch the smallest drop of dew.

2 Cold deserts:

- Antarctica is a cold desert biome that has cold temperatures all year.

Factors Affecting Living Organisms' Growth and Survival

First: Environmental (Abiotic) Factors

They are external (outside) factors that influence the growth of living organisms.

» Living organisms have basic needs, such as:

1. Light
2. Water
3. Food
4. Air
5. Size of habitat

1 Availability of Light (Abiotic Factors)

(a) The intensity (quantity) of light:

- In general, plants use sunlight to make photosynthesis.
- If light is too intense, it may damage the plants' parts, making them die or burn.

(b) The duration (amount) of light:

- Plants respond to the amount of light and dark they receive daily.

Some flowering plants may produce (bear) fruit when days are longer than nights.

Some flowering plants may produce (bear) fruit when days are shorter than night, such as in chrysanthemum.

2 Availability of Water

- Water is very important for all living organisms to survive and grow.

3 Size of Habitat

The size of the habitat can impact:

(a) The number of different species.
(b) The amount of food.
(c) Food relationships between living organisms.

Second: Genetics Factors

They are internal factors, like a set of genetic information passed down from parents to offspring to determine their traits.

ⓐ Size:

Under the right conditions, an organism grows to be approximately the size of its parents.

ⓑ Length:

The length of the organisms in the same species is similar.

ⓒ The fur color:

The fur color is often similar to the color of one of the parents.

The Inherited Traits in living Organisms

- A genetic factor controls which traits get passed down from the parents to the offspring.
- The inherited traits affect the structure of living organisms.





Eye color and nose shape

2 In animals:



Pointy ears in cats





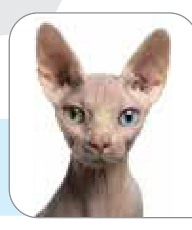
Shape of leaves

Hereditary traits They are the traits that are genetically passed on from the parents to the offspring.

Unit 4

1 Hereditary Traits in Animals





Birman Cat	Sphynx Cat
It has long, silky hair with different colors.	It does not have any hair or may have fine hair.
Their Kittens	
A Birman kitten inherits its long, silky hair from its parents.	A Sphynx kitten inherits its hairless body from its parents.
Similarity	
They belong to the same species that is called Felis catus.	

There is no Sphynx cat with long hair like a Birman. 

Because the Sphynx does not have the same genetic factors for long hair as those found in Birman.

2 Hereditary Traits in Desert Plants

Similarities:

1. Desert plants grow in the same soil.
2. Desert plants are exposed to the same amount of light.

Differences:

Desert plants have different colors, shapes, sizes, and heights.

Because they have different genetic factors.

Scientists analyzed many deserts, and they found that:

- Desert plants have adapted to arid conditions, such as:
  - Extreme Sun
  - Very little rainfall
- Each generation becomes stronger as the inherited traits transfer from the parents to their offspring.

Factors that Influence Human Growth and Behavior Development

1 Lifestyle Choices:

- Many of our lifestyle habits impact our health, growth, and development.



Bad Habits (Lifestyle)

Such as:

1. Smoking
2. Eating diets that include chips and soda

They negatively affect your health and growth.

Good Habits (Lifestyle)

Such as:

1. Exercises
2. Eating diets that include proper nutrition

They positively affect your health and growth.

2 Environmental Factors:

- People do not have the ability to control the environmental factors.

Unhealthy Environment

They negatively affect your health and growth.

Healthy and Clean Environment

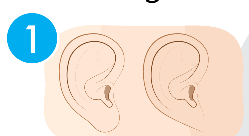
They positively affect your health and growth.

Some problems in unhealthy environments:

1. Healthcare is not available.
2. Water may be far away or unsafe to drink.
3. Food may be hard to find.
4. Sanitation is not available, which leads to the spread of diseases.

3 Genetic Factors:

- Genetic factors control the transfer of inherited traits from parents to offspring.
- Genes are tiny structures found in the cell nucleus that carry inherited traits, so they determine:

1. 
The way your earlobes hang.

2. 
The length of your fingers.

3. 
Your height

General Exercises on Concept 4.1

1 Choose the correct answer:

1. All the following are examples of physical adaptation, except ....
   a. the fur color
   b. bird's migration
   c. the fatty layer
   d. the thorns on a stem
2. The polar bear ability to live in cold regions is considered ....
   a. a behavioral adaptation
   b. a structural adaptation
   c. reproduction ways
   d. environmental changes
3. All the following are migratory birds, except ....
   a. falcons
   b. flamingos
   c. eagles
   d. penguins
4. The .... is one of the challenges that migratory birds face on their journey.
   a. availability of water
   b. size of the habitat
   c. moderate weather
   d. limited resting sites
5. .... are not adapted to live in extreme cold weather.
   a. Caribou
   b. Arctic foxes
   c. African penguins
   d. Wolves
6. .... live in tropical rainforests.
   a. Caribou
   b. Dorcas gazelles
   c. Emperor penguins
   d. Poison dart frogs
7. .... may be found in the same habitat as lizards.
   a. Emperor penguins
   b. Arctic foxes
   c. Poison dart frogs
   d. Dorcas gazelles
8. The Arctic fox is an example of a/an ....
   a. large ecosystem
   b. biotic factor
   c. environmental factor
   d. abiotic factor
9. Some desert plants are small and wiry (herbal) to .... water.
   a. store
   b. absorb
   c. lose
   d. not lose
10. All the following plants grow in the Western Desert in Egypt, except ....
    a. palms
    b. opuntia
    c. pine trees
    d. acacia trees

11 Desert plants usually have .... to keep animals away.

a. small leaves b. thick stem c. herbal shape d. prickles

12 Hot deserts are characterized by the presence of all the following, except ....

a. temporary ponds
b. little groundwater
c. moderate climate
d. little rainfall

13 Desert plants usually have thick stems or leaves to ....

a. lose water b. store water c. absorb water d. gain water

14 All the following are inherited traits in humans, except the ....

a. ear shape b. nose shape c. fur color d. eye color

15 All the following are abiotic factors, except ....

a. light b. trees c. water d. air

16 A baby rabbit looks like its parents as a result of ....

a. environmental factors
b. genetic factors
c. lifestyle
d. good habits

17 Both Birman and Sphynx cats are similar in ....

a. their hairless bodies
b. being wild cats
c. being from the Felis catus
d. their hair length

18 The kittens of Sphynx cats inherit their .... from their parents.

a. silky hair b. hairless body c. hair color d. fur color

19 The characteristics that you get from your parents are called ....

a. inherited traits
b. environmental factors
c. lifestyle choices
d. acquired traits

20 The growth of a child will be affected by ....

a. the lifestyle choices
b. the environmental factors
c. the genetic factors
d. all the previous answers

21 A healthy environment is characterized by the presence of ....

a. polluted water
b. no sanitation
c. diseases
d. healthcare

22 All the following lifestyles (habits) make our bodies healthy, except ……………………… .

a. a proper nutrition
b. smoking
c. avoiding drinking soda
d. exercising

2 Put (✓) or (✗):

1 "Animals living in a herd" is an example of behavioral adaptation. (   )

2 The growth of a plant toward light is a structural adaptation. (   )

3 Birds migrate to areas that have extreme climate. (   )

4 Migratory birds never return to their homelands. (   )

5 It is easy for animals to live in the desert environments. (   )

6 Each environment on Earth has specific climate, plants, and animals. (   )

7 All living organisms inherit their traits from their offspring. (   )

8 An emperor penguin has thick fur to keep its body warm. (   )

9 In the Arctic, a caribou eats wolves that feed on grasses. (   )

10 Acacia trees and the Arctic fox live in two different environments. (   )

11 The colorful poisonous skin of a poison dart frog helps it stay safe. (   )

12 The Arctic fox has white fur to warm its body. (   )

13 Acacia trees and Dorcas gazelles live in the same habitat. (   )

14 Plants respond to the amount of light and dark they receive daily. (   )

15 All deserts on Earth have dry and hot climate. (   )

16 The Western Desert in Egypt is important an stopover for migratory birds. (   )

17 Deserts may be hot areas or cold areas. (   )

18 Light is one of the biotic factors that affect the growth of plants. (   )

19 Chrysanthemum produces flowers when the day is longer than the night. (   )

20 The genetic traits are passed down from the offspring to the parents. (   )

21 Genes are tiny structures found in the cell nucleus. (   )

22 Sphynx and Birman cats are different in the hair length. (   )

23 Your lifestyle choices affect your health and growth. (   )

24 People do not have the ability to control the environmental factors. (   )

25 The abiotic factors of an ecosystem can eat and grow. (   )

3 Write the scientific term:

1 It is a process through which a living organism is able to survive in its habitat. (..........................)

2 It is anything related to the body of the living organism that helps it survive. (..........................)

3 It is anything that the living organism does or acts to survive. (..........................)

4 It is a behavioral adaptation in which birds move together from one place to another, usually seasonally. (..........................)

5 It is an important stopover in Egypt for migratory birds, which includes marine, coastal, and mountain environments. (..........................)

6 It is an area that contains biotic and abiotic factors that interact with each other. (..........................)

7 They are the factors that include all living organisms in an ecosystem. (..........................)

8 They are the factors that include nonliving things in an ecosystem. (..........................)

9 It is a large ecosystem where wolves and caribou live. (..........................)

10 It is a type of gazelle that lives in the deserts and semi-deserts of Egypt. (..........................)

11 It is a penguin that has a fatty layer covered with dense feathers. (..................)

12 It is a penguin that has a circle of skin without feathers surrounding its eyes. (..................)

13 It is a type of cat that has a hairless body. (..................)

14 It is a type of cat that has long, silky hair with different colors. (..................)

15 They are the factors that are passed down from parents to offspring. (..................)

16 They are external (outside) factors that influence the growth of living organisms. (..................)

17 They are found inside the cell's nucleus, and they are responsible for determining the body structure. (..................)

18 It is a desert biome that has a cold climate all year. (..................)

4 Complete the following using the words between the brackets:

A (moderate – physical – cold – genetic – behavioral – environmental)

1 "Some animals living in herds" is an example of .... adaptation.

2 The length of a tree is considered a (an) .... factor.

3 The fur color of most animals is an example of .... adaptation.

4 Arctic foxes and emperor penguins are adapted to live in extreme .... climate.

5 The size of the habitat is considered a (an) .... factor.

6 The .... climate of Egypt attracts some migratory birds in winter.

B (seeds – stem – roots – different – the same – leaves)

1 Lizards and Dorcas gazelles could live in .... environment(s).

2 African penguins and Arctic foxes live in .... environment(s).

3 Desert plants produce long-lived .... when there is rainfall.

4 Some desert plants can store water in their .... and ....

5 Some desert plants have long .... to reach the deep groundwater.

C (fine – nucleus – long and silky – growth – hereditary traits)

1 The offspring of a Birman cat has .... hair on its body.

2 The .... are genetically passed down from the parents to the offspring.

3 Genes are tiny structures found in the .... of the cell.

4 The lifestyle choices affect our ...., heath, and development.

5 The kitten of a Sphynx cat may have .... hair or hairless body.

5 Choose from column (A) what suits it in column (B):

A

Column (A)	Column (B)
1 Light	a. is an example of structural adaptation.
2 Fur color	b. is an ecosystem.
3 Bird migration	c. is an example of abiotic factors.
4 The Arctic	d. is an example of behavioral adaptation.

1 .... 2 .... 3 .... 4 ....

B

Column (A)	Column (B)
1 Lizards	a. have thick fur.
2 Arctic foxes	b. have dense feather.
3 Poison dart frogs	c. have sandy scales.
4 Emperor penguins	d. have colorful skin.

1 .... 2 .... 3 .... 4 ....

C

Column (A) Physical adaptation in desert plants	Column (B) Reason
1 Thick stems	a. To not lose water
2 Short, shallow roots	b. To store water
3 Thorns on the stem	c. To absorb any available water from the soil
4 Small and wiry shape	d. To keep herbivores away

1 .... 2 .... 3 .... 4 ....

D

Column (A)	Column (B)
1 A Birman cat	a. leads to the spread of diseases.
2 A Sphynx cat	b. has long and silky hair.
3 An unhealthy environment	c. positively affects the growth of living organisms.
4 A good lifestyle	d. has hairless body.

1 .... 2 .... 3 .... 4 ....

6 Cross out the odd word:

1. Living in a herd – Withstanding thirsty – Thorns on the stem – Migration (..................)
2. Water – Light – Eye color – Size of the habitat (..................)
3. Gazelle's size – Gazelle's height – Gazelle's habitat – Gazelle's fur color (..................)
4. Thorns on the stem – Short roots – Thick leaves – Wide leaves (..................)
5. Caribou – Acacia trees – Wolves – Grass (..................)
6. Smoking – Eating chips – Drinking soda – Exercises (..................)

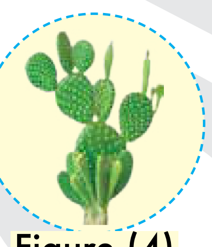


7 Study the following figures, then put (✓) or (✗):


Figure (1)


Figure (2)


Figure (3)


Figure (4)

1. In figure (1), the mother inherits the eye color from her daughter. (   )
2. The thorns on the stem in figure (4) are an example of behavioral adaptation. (   )
3. The animals in figures (2) and (3) belong to different species. (   )
4. The animals in figures (2) and (3) have different hair length. (   )

8 Give reasons for:

1. Dorcas gazelles can't be seen easily by predatory animals.

   ....

   ....

2. Falcons and eagles migrate to Egypt in winter.

   ....

   ....

3. Lizards have sandy-colored scales, while poison dart frogs have colorful, poisonous skin.

   ....

   ....

4. The African penguin has a circle of skin without feathers around its eyes.

   ....

   ....

5. The emperor penguin has a fatty layer covered with dense feathers.

   ....

   ....

6 Some desert plants have short, extended roots near the Earth's surface.

....

....

7 Some desert plants have long, extended roots.

....

....

8 Some desert plants have thorns on their stems.

....

....

9 A Sphynx cat doesn't have long hair like a Birman cat.

....

....

10 You should avoid smoking and eating a lot of chips.

....

....

9 What happens to:

1 Living organisms if water in an ecosystem becomes limited?

....

....

2 The plants if they receive too intense light?

....

....

3 The polar bear if it has dark fur?

....

....

4 The plant if it is placed without receiving light near a window?

....

....

Answers Concept 4.1

1

1 b	2 b	3 d	4 d	5 c
6 d	7 d	8 b	9 d	10 c
11 d	12 c	13 b	14 c	15 b
16 b	17 c	18 b	19 a	20 d
21 d	22 b			

2

1 ✓	2 ✗	3 ✗	4 ✗	5 ✗
6 ✓	7 ✗	8 ✗	9 ✗	10 ✓
11 ✓	12 ✗	13 ✓	14 ✓	15 ✗
16 ✗	17 ✓	18 ✗	19 ✗	20 ✗
21 ✓	22 ✓	23 ✓	24 ✓	25 ✗

3

1. Adaptation
2. Structural adaptation
3. Behavioral adaptation
4. Bird migration
5. Red Sea
6. Ecosystem
7. Biotic factors
8. Abiotic factors
9. The Arctic
10. Dorcas gazelle
11. Emperor penguin
12. African penguin
13. Sphynx cat
14. Birman cat
15. Genetic factors
16. Environmental factors
17. Genes
18. Antarctica

4

(A) 1 behavioral 2 genetic 3 physical 4 cold 5 environmental 6 moderate

(B) 1 the same 2 different 3 seeds 4 leaves – stem 5 roots

(C) 1 long and silky 2 hereditary traits 3 nucleus 4 growth 5 fine

5

(A) 1 c 2 a 3 d 4 b

(B) 1 c 2 a 3 d 4 b

(C) 1 b 2 c 3 d 4 a

(D) 1 b 2 d 3 a 4 c

6

1. Thorns on thevstem
2. Eye color
3. Gazelle's habitat
4. Wide leaves
5. Acacia trees
6. Exercises

7

1 ✗ 2 ✗ 3 ✗ 4 ✓

8

1. Due to their fur color, which helps them hide in deserts.
2. Due to the moderate winter climate in Egypt.
3. Lizards have sandy-colored scales to hide among the rocks in deserts, while poison dart frogs have colorful, poisonous skin to protect themselves from predators.
4. To cool its body fast.
5. To keep its body warm.
6. To absorb any available water from the upper soil.
7. To reach the deep groundwater.
8. To keep herbivores away.
9. Because they have different genetic factors.
10. To grow healthy because they negatively affect our growth and health.

9

1. The living organisms must adapt or they will not survive.
2. The plants parts may be damaged by drying or burning.
3. The polar bear can't hide and can't find food, so it may die.
4. The plant will grow toward light.

المراجعة رقم (4)

اختبار شهر مارس





Concept 3.2 - Model Exam ①

❶ Choose the correct answer:

① Warm moist air condenses at high elevations due to ....

a. high temperature b. low temperature
c. high atmospheric pressure d. high density of air

② All the following are used to carry measurement tools high in the atmosphere, except ....

a. satellite b. airplanes c. weather balloons d. barometer

③ Wind is created when ....

a. warm air replaces cold air
b. more dense air replaces less dense air
c. less dense air replaces denser air
d. both air masses are the same temperature

④Extreme precipitation may cause all the following, except ....

a. destroying buildings b. changing an ecosystem
c. improving an ecosystem d. human injuries

⑤ Most weather phenomena occur in .... layer.

a. Mesosphere b. troposphere c. Thermosphere d. Stratosphere

❷ Put (✓) or (✗):

① All parts on Earth's surface receive the same amount of solar energy. ( )

② Meteorologists use complex computer models to predict how different factors will interact and change the conditions in the atmosphere. ( )

③ Difference in temperature and density are patterns that cause changes in weather. ( )

④ A frozen ground can absorb the water when flooding occurs. ( )

❸ Answer the following questions:

(A) Write the scientific term:

It is the horizontal movement of air on Earth's surface.

(................................)

(B) Give a reason for:

On blowing talcum powder over a lighted lamp, the talcum powder rises up.

....
....

Concept 3.2 - Model Exam ②

❶ Choose the correct answer:

① The temperature may reach more than 50 degrees in Aswan in the summer. This reflects the ....

a. humidity　b. atmosphere　c. weather　d. climate

② Putting data on a weather map represents .... in weather prediction.

a. gathering data　b. collecting data

c. analyzing data　d. putting it all together

③ .... pulls the heavy water droplets in clouds downward.

a. Humidity　b. Gravity　c. Wind　d. Sunlight

④ All the following are considered weather disasters, except ....

a. drought　b. flooding　c. sandstorms　d. wind

⑤ When cold air replaces warm air, ...

a. a convection current occurs　b. wind stops

c. wind moves vertically　d. air current moves horizontally

❷ Put (✓) or (✗):

① Technology has no role in the developing of predicting weather conditions. (　　)

② Changes in pressure and wind speed can predict changes in the weather. (　　)

③ Sandstorms can be several miles long and thousands of feet high. (　　)

④ Atmospheric pressure at a mountain's foot is less than that at its top. (　　)

❸ Answer the following questions:

(A) What will happen if : Sudden melting of snow and ice over a region...

....

(B) Write the scientific term:

The rising and falling of air due to differences in temperature and density. (　　　　　　)

Concept 3.2 - Model Exam ③

❶ Choose the correct answer:

① Sandstorms are most common in ....

a. polar regions b. deserts c. rainforests d. green landscapes

② If the temperature at the top of the mountain is 10^{0}C, then the temperature at its bottom might be .... ^{0}C.

a. 10 b. 5 c. 50 d. 20

③ .... is the slowest material that heats up.

a. Sand b. A rock c. Soil d. Water

④ .... is the measure of the amount of water vapor in the air.

a. Humidity b. Temperature c. Wind d. Atmospheric pressure

⑤ The horizontal movement of air along Earth's surface is called ....

a. air currents b. atmosphere c. wind d. air pressure

❷ Put (✓) or (✗):

① Floods may cause the drowning of livestock. ( )

② Weather balloons are designed to carry measurement tools up high in the atmosphere. ( )

③ Weather satellites can predict the possible path of a hurricane. ( )

④ Ecosystems can't recover from flooding. ( )

❸ Answer the following questions:

(A) Write the scientific term:

It is the overflow of water on the land around riverbanks due to the increase in rainfall flowing on the river. (.................................)

(B) Give a reason for:

Air currents differ from wind.

....

....

Concept 3.2 - Model Exam ④

❶ Choose the correct answer:

① The sequence of weather forecast is ....

a. collecting data → putting all together → analyzing the data.
b. analyzing the data → putting all together → collecting data
c. collecting data → analyzing the data → putting all together.
d. putting all together → analyzing the data → collecting data

② Farmers take the advantages of .... energies to power farms in desert.

a. solar and wind　　b. wind, sound
c. wind and chemical　　d. solar, sound

③ .... is the main reason of many weather disasters.

a. Global climate change　　b. Pandemic
c. Ocean currents　　d. Earth's rotation

④ Temperature is measured by ....

a. thermometer　　b. barometer　　c. anemometer　　d. rain gauge

⑤ .... looks like a solid wall of debris and dust traveling along the horizon.

a. A flood　　b. A drought　　c. An earthquake　　d. A sandstorm

❷ Put (✓) or (✗):

① The paths of both thunderstorms and hurricanes can be tracked by radar.
② A drought means that there is more water available for growing crops.
③ Wind is created due to the equal heating of Earth's surface by the Sun.
④ In desert, the amount of water that evaporates is less than that falls by precipitation.

❸ Answer the following questions:

(A) Write the scientific term:

A device that is used to transport weather forecasting devices into higher altitudes. (...............................)

Give reasons for:

Weather balloons are designed to carry measurement tools high in the atmosphere.

....

....

Concept 3.2 - Model Exam ⑤

❶ Choose the correct answer:

① All the following are from the ways farmers in the desert use to improve the soil, except ………….

a. reusing water
b. use wind turbines
c. use high fertility and water crops
d. use solar energy

② During a sunny day on beach, …………………..

a. the temperature of both water and land increases by the same rate.
b. the temperature of both water and land decreases by the same rate.
c. the temperature of land increases faster than the temperature of water.
d. the temperature of water increases faster than the temperature of land.

③ Increasing the amount of rain on an area that can't hold the water may cause ………….

a. drought
b. floods
c. sandstorm
d. rain shadow

④ The climate is …………………………..… .

a. the amount of rain an area receives
b. the state of the atmosphere at a specific place and time
c. the air temperature
d. the average weather condition over an extended period of time

⑤ At the tops of mountains, the air pressure is ……………………………. the pressure at the foot of the mountains.

a. higher than
b. less than
c. equal to
d. vanishing compared to

❷ Choose from column (A) what suits it in column (B):

(A)	(B)
1. Anemometers (………)	a. are used to power farms in deserts.
2. Drought (………)	b. are used to measure the wind speed.
3. Wind turbines (………)	c. are instruments used to measure the temperature.
4. Thermometers (………)	d. occurs when there is no rain for a long time.

❸ Answer the following questions: (A) Write the scientific term:

It is the tool used by meteorologists to measure atmospheric pressure.

(B) Give reasons for: **Sand on the beach is hotter than the sea water during the day.**

……

……

Concept 3.2 - Model Exam ⑥

❶ Choose the correct answer:

① As the humidity increases, the amount of condensed water in the air ……………….. .

a. increases   b. decreases   c. doesn't change   d. disappears

② A rain shadow is formed on the ………………………………… side of a mountain as a result of ………………………………… precipitation there.

a. wet, more   b. dry, less   c. wet, less   d. dry, more

③ Extreme precipitation may cause all the following, except ……………………………… .

a. destroying buildings   b. changing an ecosystem

c. improving an ecosystem   d. human injuries

④ A rainfall can be predicted by …………………., while the amount of rainfall can be measured by ………………………. .

a. rain gauge – weather radar   b. weather radar – anemometer

b. anemometer – rain gauge   d. weather radar – rain gauge

⑤ All the following from the hazards of flood, except …………………. .

a. breaking buildings   b. drowning of animals

c. distrusting economy   d. Improving ecosystem

❷ Put (✓) or (✗):

① Atmospheric pressure doesn't change by increasing the altitude above sea level. (   )

② Small and unexpected changes in wind or moisture in the air cannot affect next week's weather. (   )

③ Farmers take advantage of sun conditions and wind in desert biome by using solar panels and wind turbines to power farms. (   )

④ Sandstorms can cause reduce of visibility that accompanied by high wind. (   )

❸ Answer the following questions:

(A) Write the scientific term:

They are scientists who use different tools to study and forecast weather.

(…………………………………………)

(B) What happens to:

1. The reading of a hiker's barometer when climbing a mountain.

………

………

2. The temperature of the sea water at night.

………

………

Concept 3.2 - Model Exam ⑦

❶ Choose the correct answer:

① ………………………… is the main reason for the occurrence of weather phenomena.

a. The moon b. The Sun c. Wind d. Snow

②All the following are used to carry measurement tools high in the atmosphere, except …………………………… .

a. satellites b. airplanes
c. weather balloons d. barometer

③Sandstorms occur when strong wind blows up ………………………………. .

a. snow and dust b. sand and water vapor c. sand and dust d. dust and hail

④Which statement is correct?

a. Water heats up faster than sand.
b. Water needs less energy than sand to heat up.
c. Sand heats up slower than water.
d. Sand needs less energy than water to heat up.

⑤ Putting data on a weather map represents ………………. for weather prediction.

a. gathering data b. collecting data
c. analyzing data d. putting it all together

❷ Put (✓) or (✗):

① Farmers irrigate by reusing water to overcome the little rain in the desert.

② Rain gauge is an instrument that used to measure the amount of rain.

③ Falling of ice crystals is an example of precipitation process.

④ The little precipitation may cause drought.

❸ Answer the following questions:

(A) Give a reason for:

Sandstorms can be hazardous to motorists or drive a car.

……

……

(B) Write the scientific term:

The science that studies and predicts the weather conditions.

(…………………………….)

(C) Correct the underlined words:

① Air mass is created by the unequal heating of Earth's surface.

② Coastal often have two sides which are wet side and dry side.

Concept 3.2 - Model Exam ⑧

❶ Choose the correct answer:

① Cold air is................................... than warm air, so cold air ....

a. more dense – sinks　　b. less dense – rises
c. more dense – rises　　d. less dense – sinks

② The extended heat waves may cause ....

a. Floods　　b. droughts　　c. volcanoes　　d. earthquakes

③ .... pulls heavy water droplets in clouds downward.

a. Humidity　　b. Gravity　　c. Wind　　d. Sunlight

④ .... is the slowest material that heats up.

a. Sand　　b. A rock　　c. Soil　　d. Water

⑤ The amount of water vapor found in air is called ....

a. humidity　　b. evaporation　　c. condensation　　d. cloud

❷ Put (✓) or (✗):

① Meteorologists can be completely sure of future weather conditions. (　　)

② By increasing the altitudes, atmospheric pressure and air density increases. (　　)

③ Sandstorms can be several miles long and thousands of feet high. (　　)

④ Mapping data helps meteorologist to predict the weather conditions. (　　)

❸ Answer the following questions: A. Write the scientific term:

A device that is used to transport weather forecasting devices into higher altitudes. (.................................)

B. Give a reason:

① Hot air rises up, while cold air moves down.

....

....

② Weather radar is important for meteorologists.

....

....

C. What happens when: Dust builds up on solar panels after a sandstorm.

....

....

Concept 3.2 - Model Exam ⑨

❶ Choose the correct answer:

① Which statement is NOT true about sandstorms?

a. They reduce visibility. b. They don't affect people health.
c. They affect water quality. d. They are accompanied by high winds.

② The density of cold air is .... that of hot humid air.

a. more than b. equal to c. less than d. similar to

③ When air particles are heated, all the following occur, except ....

a. air particles expand b. air becomes more denser
c. air becomes less dense d. air rises

④ Sandstorms may occur in an area that has experienced ....

a. prolonged drought b. short-term drought
c. flood d. melting of ice

⑤ .... are scientists who study and predict the weather.

a. Cell biologists b. Meteorologists
c. Zoologists d. Ecologists

❷ Put (✓) or (✗):

1. At the bottom of a mountain, the density decreases due to the presence of heavy gases. ( )
2. Barometer measures how fast the wind is blowing. ( )
3. Desert is characterized by hot and rainy climate. ( )
4. When water droplets in clouds become larger and denser, they evaporate. ( )
5. During climbing a mountain, air pressure increases while air density decreases when we go down. ( )

❸ Answer the following questions:

(A) Write the scientific term:

It is the amount of force that air (the weight of air) exerts on a certain area.
(...)

(B) Mention one use of:

1. Satellites..
2. Weather maps...

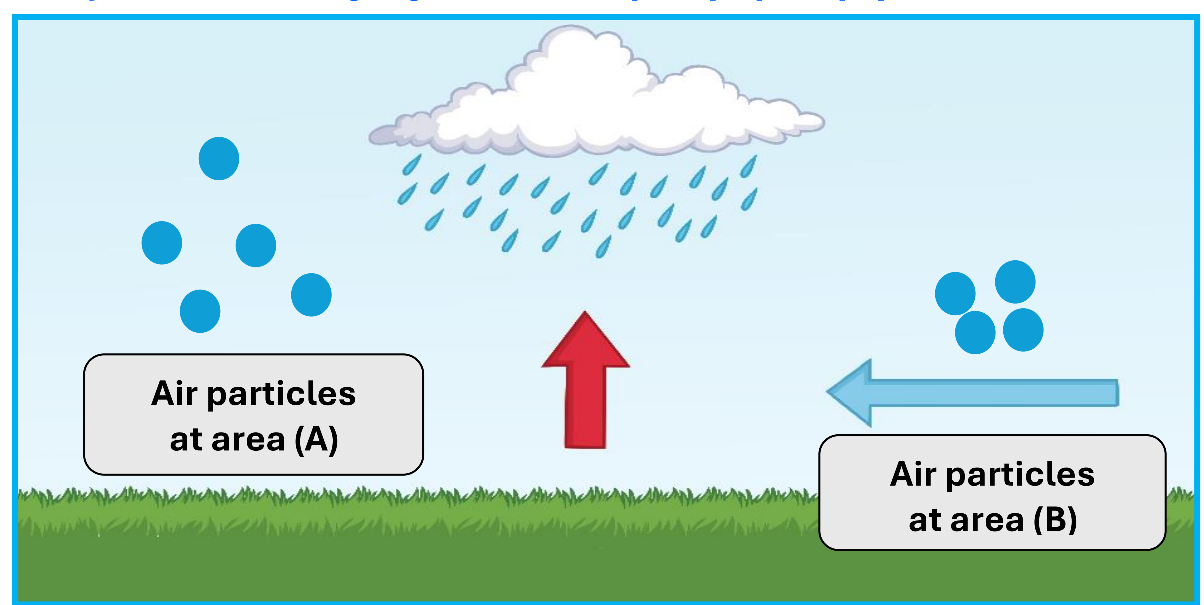
(C) What happens to: An irrigation canal when a sandstorm fills up it with dust. ....

Concept 3.2 - Model Exam ⑩

❶ Correct the underlined words:

① Anemometer is a device that measures the amount of rain in a certain area.
② The force of air exerts on a certain area is known as precipitation.
③ The amount of water vapor in the atmosphere represents atmospheric pressure.
④ Thermometer is used to measure the wind speed.

❷ Study the following figures, then put (✓) or (✗):



① The movement of the air particles at area (B) to area (A) represents air current. (   )

② The movement of the air particles at area (A) represents wind. (   )

③ Air particles at area (B) has high atmospheric pressure than that at area (A). (   )

④ Air particles at area (A) have low density while air particles at area (B) have high density. (   )

⑤ Convection current represents vertical movement of air particles caused by difference temperature and density. (   )

❸ Answer the following questions:

What happens when: We move down the mountain according to the air density.……………………………………………………………………

……………………………………………………………………………………

Give a reason: Floods have some advantages.

……………………………………………………………………………………

……………………………………………………………………………………

Concept 4.1 - Model Exam ①

❶ Choose the correct answer:

①The .... is affected directly by an environmental factor.

a. rabbit's fur color b. kitten's eye color
c. amount of light a tree gets d. tree's height

②...................................... may be found in the same habitat of lizards.

a. Emperor penguin b. Arctic fox
c. Poison dart frog d. Dorcas gazelle

③A healthy environment is characterized by the presence of ....

a. polluted water b. no sanitation
c. widespread diseases d. health care

④Desert ecosystem is characterized by the presence of all the following, except ……… .

a. temporary ponds b. little rainfall
c. moderate climate d. little groundwater

⑤ The growth of a child will be affected by ....

a. the lifestyle choices b. the genetic factors
c. the environmental factors d. all the previous answers

❷ Put (✓) or (✗):

① The genetic factor controls the traits passed down from the offspring to the parents. ( )
② The pointy ears in cats are inherited traits. ( )
③ Water availability in the environment promotes an animal's growth and survival. ( )
④ Falcons and zebras are birds that migrate to Egypt in winter. ( )
⑤ You need to drink only fresh orange juice to be healthy. ( )

❸ Answer the following questions:

(A) Write the scientific term: It is a type of gazelle that lives in the deserts and semideserts of Egypt. (.......................................)

(B) What happens if:

Sphynx and Birman cats have the same genetic factors of hair length.

....

....

Model Exam ②

❶ Choose the correct answer:

① The ability of Dorcas Gazelles to go months without drinking is the …………………… factor(s).

a. Environmental b. genetic c. human d. both of (a) and (b)

② Desert plants usually have …………………… to keep animals away.

a. leaves b. fruits c. colorful flowers d. prickles

③ Both Birman cats and Sphynx cats are similar in …………………… .

a. their hairless body b. being from Felis catus
c. being wild cats d. their hair length

④ All the following lifestyles make our bodies healthy, except ………………… .

a. a proper nutrition b. smoking
c. avoiding drinking soda d. exercising

(B) Write the scientific term:

It is species to which pet cats belong. (…………………………)

❷ (A) Put (✓) or (✗):

① Organisms that can adapt to environmental factors pass on their traits to the next generation. ( )

② The scarcity of resources in an environment helps living organisms survive. ( )

③ When there is rainfall in a desert, plants sprout slowly, reaching the flowering stage. ( )

④ Smoking affects our health positively. ( )

(B) Correct the underlined word:

Birds' migration is an example of **<u>physical</u>** adaptation. (…………………………)

❸ (A) Answer the following questions:

Complete the following sentences using the given words between the brackets: (the environmental - long and silky – physical - genes - type of leaves)

① The offspring of a Birman cat has …………………… hair on its body.

② A plant has …………………… that determine its roots structure and …………………… .

③ The dryness of a plant in dry seasons is due to …………………… factor.

④ The …………………… adaptation would help some birds to survive their migration journey more than others.

(B) Give a reason for: You should avoid eating a lot of chips.

……………………………………………………………………………………………………

……………………………………………………………………………………………………

Concept 4.1 - Model Exam ③

❶ Choose the correct answer:

① All the following are examples of physical adaptation, except ....

a. Thick fur b. migration
c. white fur d. thorns on a plant's stem

② .... are not adapted to withstand low temperature.

a. Caribou b. Arctic foxes
c. African penguins d. Wolves

③ The growth of a child will be affected by ....

a. the lifestyle choices b. the genetic factors
c. the environmental factors d. all the previous answers

④ .... is/are NOT from the challenges that face(s) birds' migration journey.

a. Predators b. Limited food resources
c. Extreme weather d. Moderate weather

⑤ Both Birman cat and Sphynx cat are similar in ....

a. their hairless body b. being from Felis catus
c. their hair length d. being have the same genetic factors

❷ Put (✓) or (✗):

① The length of your fingers and your nose shape are determined by the same genetic factor. ( )

② The availability of light and water influences the behavior of plants carrying out photosynthesis and the growth of trees and shrubs in an ecosystem. ( )

③ Adaptations occur in response to the availability or limitation of abiotic factors. ( )

④ Our diet is the only factor that affects our growth. ( )

❸ Complete the sentences using the words between the brackets:

(growth – dew – vegetation – an environmental)

① Large parts of Egypt's Western Desert have little ....

② The lifestyle choices affect our .... and development.

③ The dryness of plants in August is due to .... factor.
④The short roots of some desert plants can catch drops of ....

❹ Answer the following: (A) Give reasons for:

You are never going to see a Sphynx cat that has long hair like a Birman one.

....

....

(B) Write the scientific term:

An area that contains biotic and abiotic factors that interact with each other. (...)

Model Exam ④

❶ Choose the correct answer:

① .... is one of an organism's basic needs for survival.
a. Availability of light and water
b. Limited access to food and water
c. Unsuitable homelands for breeding
d. (b) and (c)

② The difference between a Sphynx and a Birman cat is that ....
a. A Sphynx has long hair while a Birman is hairless.
b. A Birman has long hair while a Sphynx is hairless.
c. Neither Birman nor Sphynx have hair.
d. Both Birman and Sphynx have hair.

③ Offspring (New plants and animals) receive .... from the cells of their parents.
a. Organs b. genetic information
c. inherited traits d. no correct answer

④The .... is the most likely physical trait to be passed on to the offspring of desert butterflies.
a. green-colored wings b. red-colored wings
c. sandy-colored wings d. blue-colored wings

⑤The body of .... is covered with tough-sandy colored scales.

a. a lizard　　　　　　　　b. an African penguin

c. an emperor penguin　　　d. an Arctic fox

❷ Choose from column (A) what suits it in column (B):

(A)	(B)
1. Emperor penguins	a. are coated with tough-sandy scales.
2. Lacking sanitation	b. have blubbers covered with dense feathers.
3. Habitat loss	c. leads to the spread of diseases.
4. Lizards	d. causes a rabbit to inherit brown spots from its mother.
5. Genetic factor	d. is an environmental factor that affects animals' migration journey.

1. .... 2. .... 3. .... 4. .... 5. ....

❸ Answer the following questions:

A. Write the scientific term:

① It is a type of adaptation in which are related to an organism's structure to help it to survive in its habitat. (.......................................)

B. Give a reason for the following:

① Some plants which lives in desert have long extended roots under Earth's surface and thick stems.

....

....



Concept 4.1 - Model Exam ⑤

❶ Choose the correct answer:

① Hereditary influences human growth and development by ....
a. Determining lifestyle choices
b. Controlling environmental factors
c. Passing on genes that determine physical traits
d. None of the above

② All the following characteristics help in growth and survival of desert plants, except ....
a. wide leaves b. thorns c. shallow roots d. thick stems

③ Environmental factors that can impact human growth and development negatively include all of the following, EXCEPT ....
a. Lack of access to clean water b. Unsafe work conditions
c. Access to health care d. Lack of sanitation

④ The reason(s) behind birds migration is/are that ....
a. To find better food sources b. To escape predators
c. To breed in warmer climates d. All previous answers

❷ Put True or False:

① Growing a plant towards light is a structural adaptation.
② Adaptations occur in response to the abundance or limitation of abiotic factors.
③ African penguin has a circle of skin without feathers surrounding each of its eyes to keep its body cool.
④ An arctic is an example of small ecosystem that contains caribou that feeds on grasses.

Give a reason:

Emperor penguin has thick blubber and dense feathers.
....
....

What will happen if: A plant is exposed to too much light.
....
....

Concept 4.1 - Model Exam ⑥

❶ True or False:

① Both intensity and amount of the light are affected the plant growth. ( )

② Most animals that live in polar regions have colorful poison skin. ( )

③ The size of habitat and water are examples of environmental that affects increasing the number of different animals species in the same area. ( )

④ During reproduction, the nucleus of cell helps to pass on genes (cellular instructions) from each parent to offspring that are responsible for determining physical traits. ( )

❷ Complete the following sentences using the given words between the brackets: (abiotic - genetic factor habitat loss - Falcons - hereditary traits - biotic - Red Sea)

① The .... are genetically passed on from the parents to the offspring.

② In Egypt, Nile River and .... are important stopovers for eagles and .... flocks in winter.

③ An ecosystem contains .... and .... components.

④ The lifestyle choices and .... affect our growth heath and behavior development.

⑤ Finding resting sites during birds' migration journey may be hard due to ....

③ A. Write the scientific term:

① It is a type of adaptation in which are related to an organism's structure to help it to survive in its habitat. (.......................................)

② They factors that control what traits are transmitted genetically from the parents to the offspring. (.......................................)

③ They carry genetic information and responsible for determining inherited traits that passed from parents to offspring. (.......................................)

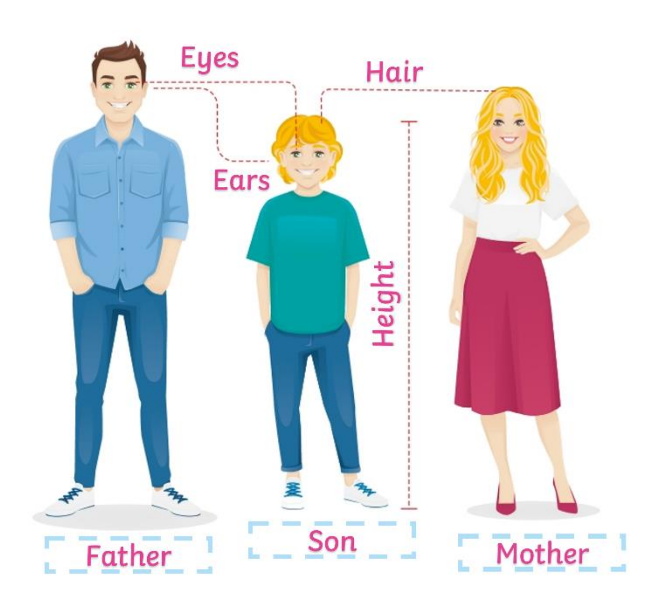
B. What will happen if:

African penguin has feathers surround its eyes.

....

....

❹ A. Study the following figures, then put (✓) or (✗)



① Cellular instructions (Genes) are found in the nucleus of a cell and are responsible for determining inherited traits. (   )

② Offspring receive genes from their mother only. (   )

③ Ears lobe, eye color and how you tall are examples of inherited traits. (   )

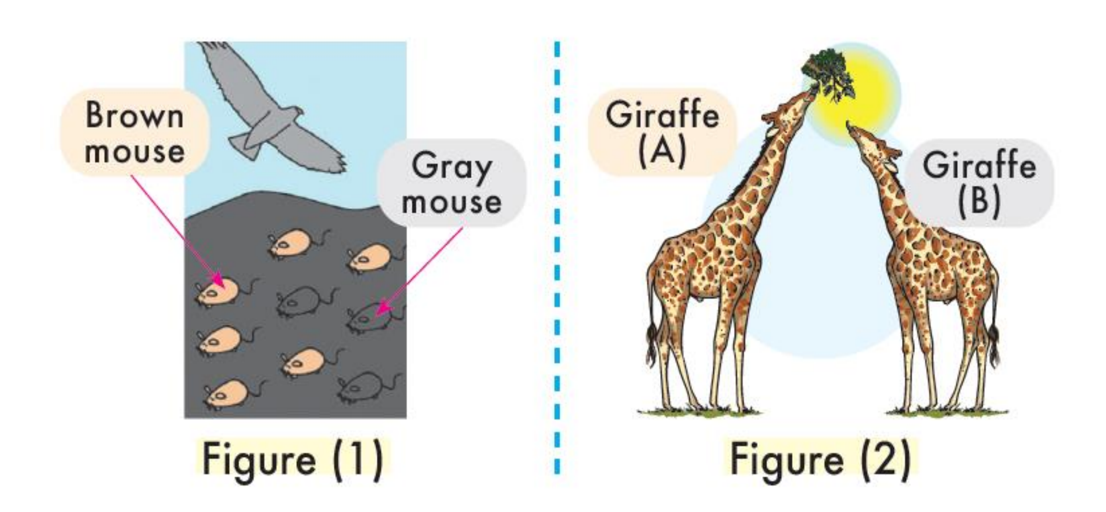
④ Every parent passes down an exact copy of all their genes to their offspring. (   )

⑤ A son can look completely different from his parents even though he shares some of their genes. (   )





C. **Study the following figures, then put (✓) or (✗):**



① In figure (1) , brown mice will perish (die). ( )

② In figure (1), the offspring of next generations of mice will have brown fur. ( )

③ In figure (2), the giraffe (A) will survive and reproduce. ( )

④ In figure (2), the offspring of next generations will have the short-neck trait. ( )





Concept 4.1 - Model Exam ⑦

❶ Choose the correct answer from the following:

❶ Migratory birds such as steppe eagles have ……….. adaptations that help them to migrate millions of miles. (Physical – behavioral)

❷ Arctic region is an example of …………… ecosystem. (Small – large)

❸ Thick stems and leaves are important in some desert plants to (store water – make herbivores away)

❹ Genes (Cellular instructions) are transmitted from the ……….. of parents to offspring. (cell nucleus – cell wall)

❺ The shape of leaves growing on a plant is an example of ………… adaptation. (physical - behavioral)

❻ ………… is an environmental factor that affects increasing number of different animals species in an ecosystem. (The availability of light – The size of habitat)

❷ True or False:

1. The height of plants is determined by genetic factors such as the grass plants are usually shorter than the tall flowering plants in a forest. (   )
2. In Arctic ecosystems, caribou hunt wolves that feed on grasses. (   )
3. If a living organism is adapted in an extreme ecosystem, its offspring becomes stronger as the parent pass on the genes that determine traits that help them to survive. (   )
4. The amount of grass that a rabbit eats is affected by an environmental factor. (   )

❸ Complete the following sentences using the given words between the brackets:

(seeds – Light - Antarctic – dew – biotic – Water - desert – abiotic)

1. Lizards live in ……………., while emperor penguin live in …………… .
2. Living in herds in some animals like sheep is a ……………… adaptation.
3. Desert plants produce long-lived ……………………. when there is rainfall.
5. ……………… and ………….. are the primary components in an ecosystem.
6. Short roots of some desert plants can catch drops of ………………….. .

Give a reason:

Birds migrate from one place to another seasonally.

…………………………………………………………………………………………………

…………………………………………………………………………………………………

Concept 4.1 - Model Exam ⑧

❶ Choose the correct answer from the following:

① Water, sunlight, and air are all examples of a type of ……………………...…… factors in the ecosystem.

a. biotic b. living c. non-essential d. abiotic

② What adaptation does not protect a plant from being eaten by herbivores?

a. The leaves of a plant with small, sharp spines

b. The leaves of the plant which have a very bitter taste.

c. The poisonous plant leaves.

d. The plant leaves which store large amounts of water.

③ The polar bear ability to live in extremely cold regions is considered ……………………...……… .

a. behavioral adaptation b. reproduction ways

c. structural adaptation d. environmental changes

④ Adaptation occurs in response to ……………

a. Abundance of resources only. b. Limitation of resources only.

c. Both (a) and (b) d. No correct answer

❷ Complete the following sentences:

1. Cat breeds can vary in ………….. despite being belong to the same species, Felis catus.
2. Plants in the desert have adapted to extreme sun exposure and little rainfall through ………….. .
3. Lifestyle choices such as ………….. can impact health and development positively.
4. A ……………… inherits its hairless body from its parents, while a Birman offspring inherits its ……………. from its parents.

❸ Write the scientific term:

1. It is one of problems that found in unhealthy environments which causes the spread of diseases. (……………………………………)
2. It is a factor that affects the plant growth and can cause damage its parts or burning it. (……………………………………)

❹ Give reasons for:

Dorcas gazelle can't be seen easily by predators.

……

……



Concept 4.1 - Model Exam ⑨

❶ Choose the correct answer from the following:

① All the following are examples of the ways of desert plants adaptation, except ……….
a. They have prickles to make herbivores away.
b. They have thick stem or leaves to store water.
c. They have thick fur to adapt in cold habitat.
d. they have short roots to catch any drops of dew.

② …………….. play a role in determining health and development in people.
Environmental factors b. Lifestyle choices
c. Genetic factors d. All the previous answers

③ …………………… inherited from parents determine various traits in offspring.
a. Genes b. Organs c. Environmental factors d. Tissues

④Plants grow toward light is considered as …………………………… .
a. structural adaptation b. reproduction ways
c. behavioral adaptation d. genetic factors

⑤ Abiotic factors affect …………………..
a. the growth of living organisms b. the way of adaptation
c. the color of eyes of living organisms d. (a) and (b)

❷ Correct the underlined words:

1. The instructions for survival in challenging conditions are built into plant's **leaves**.
2. **Environmental factors** such as diet and exercise affect health and behavior development.
3. A Sphynx is a **hairy** cat.
4. Sphynx and Birman cats have the **same** genetic factors for hair length.
5. **Organs** inherited from parents determine various physical traits such as earlobes, finger length, and height of living organisms.

❸ Answer the following:

Mention two factors affect the plant to carry out photosynthesis process:
1. ………………………… 2. ……………………………

Mention two examples of behavior adaptation:
1. ………………………… 2. ………………………………

Mention two inherited traits determined by genetic factors:
1.……………………….. 2. ………………………………

Concept 4.1 - Model Exam ⑩

❶ Complete the following sentences using words between brackets:

① .... is an example of inherited trait

(The shape of leaves – the intensity of light)

② Scientists found that plants in desert have adapted to the environmental pressure such as ....

(Cold climate , too much rain – Extreme sun exposure and very little rain)

③............ has ability to hide among rocks because of sand-scales that covers its body. (Poison dart frog – Lizard)

④ Size of habitat and the availability of light are examples of ....

(Genetic factors – Environmental factors)

⑤ When resources are scarce animals must depends on their .... to adapt in extreme conditions. (Physical traits – lifestyle choices)

⑥................. bear fruits when the length of day is shorter than the night.

(Sunflower – Chrysanthemum)

❷ Complete the following sentences:

1. .... and challenges can lead to adaptation in plant species over time, influencing their survival in extreme conditions.
2. People in some places such as unhealthy environment lack the basic needs like .... and ....
3. Dorcas gazelle has .... as structural adaptation to survive in the desert habitat While falcons .... as behavioral adaptation to breed and find food.
4. A rabbit has brown spot on its fur just like its parent is affected by .... factors while the number of different species in an ecosystem is affected by .... factors .

❸ Put true or False:

① A Sphynx's offspring may not end up having the same hair and skin as its parents. (   )

②The length of the stem of Chrysanthemum flowers is from the genetic factors that affect its growth. (   )

③ Limited access to water and food is one of reasons that cause migratory birds return to homeland environment. (   )

④ Elephants living in a herd is an example of structural adaptation. (   )

⑤ Plant growth is affected by the intensity and amount (duration) of light. (   )

حمل الآن

مجانا وحصريا

المراجعة رقم (5)

اختبار شهر مارس





Give the reason.

1- At noon, we may not be able to stand barefoot on the sand of a beach in summer, but we can swim in the sea water
   Because sand is heated up faster than water
2- When the air is heated, it expands
   Because the molecules of air move away from each other
3- Extreme weather has become stronger in many places around the world
   Due to global climate change
4- Floods have some benefits
   Because some ecosystems depend on floods such as ecosystems along the Nile
5- Sandstorms have harmful effects on human health
   Because they harm the human eyes and respiratory system
6- The small Dorcas gazelle is similar to its parents
   Because they get some genetic factors from their parents
7- falcons and eagles migrate to Egypt in winter
   because Egypt in winter has a moderate climate condition





8- birds migrate from one place to another place
to search for the best conditions that help them reproduce

9- African penguin has a circle of skin that does not have any feather around each of its eyes
To help its body cool fast in hot climate

10- Most of desert plants have short extended roots near the Earth's surface
To absorb any available water and to catch the smallest drops of dew

11- Some plants in deserts produce seeds that can live for a long time
Because in deserts there is shortage of rainfall for a long time

12- Poison dart frog has colorful poisonous skin
To protect itself from predators

13- Lizard body is covered with sandy colored scales
To hide among rocks in desert

14- Some plants which live in desert environment have long roots
To get the deep groundwater

15- A Birman kitten has long and silky hair
Because it inherits this trait from its parents

16- Sphynx cats do not have long hair
Because it does not have the genetic factor for long hair

17- Your lifestyle choices affect your health

Because it depends on your behavior which may be good habits or bad habits

18- Decomposers have an important role in the formation of soil

Because they recycle the remains of dead animals and plants into chemical nutrients in the soil

19- There are many types of soil

Due to different amounts of ingredients that form them

20- Soil is very important for plants

Because they provide plants with basic needs such as air, water and nutrients

21- Composition of soil differs from one place to another on the Earth's surface

Due to the effect of climate and types of rocks found in this soil





What happens to/ if?

1- The temperature of water inside a beaker if we put it under a lighted lamp for few minutes
The temperature of water will increase

2- The temperature of a desert sand at night
The temperature of desert sand will decrease

3- We boil water in a pot on the stove (concerning the movement of hot water and cold water)
Hot water moves up and cold water falls down

4- Buildings when they are subjected to strong floods
They may be damaged by moving or breaking them

5- Solar panels when dust accumulates on them
Solar panels stop generating energy

6- If the environmental conditions change in the homeland in which some migratory birds live
They will migrate to another suitable habitat

7- To the living organisms in an ecosystem, if water and light are not available
Living organisms cannot survive and will die

8- To the plants in an ecosystem, if they receive too intense light
Plant parts may be damaged, dried or burned

9- To two similar plants, if they are exposed to the same intensity and duration of light
The two plants will grow at the same rate





10- If the genetic factor of hairless body trait is transferred from sphynx cats parents to their offspring

The trait of hairless body appears on the offspring

11- If the inherited traits are transferred from desert plants to another through generations

The desert plants are more adapted to survive in extreme desert conditions

12- The soil if it does not contain any decomposer organisms

The soil will lose the chemical nutrients that are found in dead plants and animals and the soil will not be fertile

13- The plants if the soil becomes unhealthy.

death of plants that grow in this environment.

14- The rocks are affected by the weathering process.

The rocks are broken down into small pieces such as particles of sand, silt and clay.







كيفية طباعة صفحات معينة من ملف معين



مثلا ازاى نطبع الصفحات من صفحة 4 الى صفحة 9

خطوة 1

خطوة 2
اختيار اسم الطابعة بتاعتك

خطوة 3
كتابة الصفحات المراد طباعتها
نكتب رقم 4 ثم نكتب الشرطة دي – ثم نكتب 9

خطوة 4
اختيار نوع الورق

خطوة 5
اختيار A4

خطوة 6